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An ABC of Planning

(FUNDAMENTALS OF
THE THEORY
AND METHODOLOGY OF
ECONOMIC PLANNING)



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АЗБУКА ПЛАНИРОВАНИЯ

(Основы теории и методологии экономического планирования)

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INTRODUCTION

Planned management of the economy owes its appearance to socialism and represents one of the most important scientific and social gains of the twentieth century. National economic planning is a most important instrument for the realisation of the policies of the communist and workers' parties of socialist countries. In developing countries planning of the national economy is being utilised more and more for the speeding up of social and economic development. In socialist-oriented countries national planning is a concrete example of the policies of democratic forces and parties when in power.

The best minds of mankind have long dreamed of an organisation of production that would be consciously regulated by the whole of society in the interests of the absolute majority of the population. However, in pre-socialist societies the realisation of this dream was impossible because of the rule of private ownership of the means of production.

The possibility and necessity of conscious, planned control of production under socialism was first theoretically laid down by the founders of scientific communism Karl Marx and Frederick Engels. Engels wrote in his work *Socialism: Utopian and Scientific*: "The proletariat seizes the public power, and by means of this transforms the socialized means of production . . . into public property. . . . Socialized production upon a predetermined plan becomes henceforth possible."¹

Karl Marx in his *Critique of the Gotha Programme* showed that the scientific theory of planned development of the economy under socialism is intended for the maxi-

¹ F. Engels, "Socialism: Utopian and Scientific" in: K. Marx, F. Engels, *Selected Works* in three volumes, Vol. 3, Progress Publishers, Moscow, p. 151.

mum satisfaction of the social and personal needs of all members of socialist society.

Vladimir Lenin, founder of the world's first workers' and peasants' state—the Union of Soviet Socialist Republics—made an enormous contribution to the theory of national economic planning. In a series of works: "Report on the Work of the Council of People's Commissars, December 22", "Integrated Economic Plan", "Draft Plan of Scientific and Technical Work", "Can the Bolsheviks Retain State Power?", "How to Organise Competition?" and others, Lenin formulated the basic principles of socialist planning, showed the organising and guiding role of the general state plan in the development of the national economy and defined the structure and functions of the planning organs.

National economic planning is constantly being improved, a process which has been going on since its first beginnings in the 1920s. The first state plans in the USSR covered the production and distribution of separate types of goods, then the most important branches of the national economy became their sphere of action. The State Plan for the Electrification of Russia (GOELRO), which was drawn up in 1920, became the first long-term development plan in the world. Provision was made in this plan for the overall development of the country's economy over 10-15 years. The plan paid great attention to the electrification of the whole national economy, the basis of successful development of all branches of the economy.

In the electrification plan provision was made for increasing electric power production more than four times, doubling the production of cast iron, and steel production to be increased by 50 per cent compared with the level of production in pre-revolutionary Russia. Production by the chemical industry was to increase by 80 to 100 per cent. The chief task of this plan was to overcome the technical and economic backwardness of the country by its own efforts. The plan was successfully carried out.

From the end of 1928 Soviet economic development has been based on five-year plans. Each five-year plan constitutes an important landmark in the socio-economic development of the country. In addition, each five-year plan makes a significant contribution to the theory of national economic planning.

In the Soviet Union five-year plans are the basic form of planning of the economy. They have become the chief instrument for the implementation of the economic and social policies of the CPSU. Planning is one of the most important advantages of socialism. Centralised planning, i.e., planning from a single centre, permits all the resources of the country to be concentrated on the most important sections of the economic organisation. The effective use of planning allowed the USSR to join the ranks of the world's most advanced industrialised countries in a historically short period.

Ten five-year plans have been laid down and successfully carried out in the USSR. During the years of the pre-war five-year plans the Soviet people successfully carried out the industrialisation of the country and the collectivisation of agriculture and established a powerful economic, scientific and technical potential. The 26th Congress of the CPSU which took place at the beginning of 1981 laid down the Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990.

This historic document outlines the grand programme of communist construction in the country in the 1980s. During these years the Communist Party of the Soviet Union will continue the consistent implementation of its economic strategy, the supreme aim of which is the constant raising of the material and cultural standards of the people, the creation of the best conditions for all-round personal development on the basis of further rise in the efficiency of all social production, a rise in labour productivity and growth of social and working activity of the Soviet people.

The Guidelines envisage deep qualitative changes in the material and technical basis of developed socialism. These changes will be implemented on the basis of the intensification of social production and the acceleration of scientific and technical progress, the dynamic and balanced development of the economy as a single national economic complex, and the proportional growth of all sectors.

The eleventh five-year plan (1981-1985) is a crucial stage in the accomplishment of the long-term tasks of communist construction. The eleventh plan is expected to be instrumental in promoting the changeover to the pre-

dominant use of intensive development factors in the Soviet economy. The national income will rise by 18 per cent over the five years, the average monthly wages of factory and office workers will grow by 14.5 per cent, and social consumption funds by 22 per cent. Industrial output will increase by 26 per cent, the average annual output of agricultural produce by 13 per cent. The planned increase in the volume of the national income will be attained with a smaller increase in capital investment than in the previous five years, the planned increase being 10.4 per cent.

The way to intensified production is most clearly manifested in the targets for increasing labour productivity. The productivity of social labour over the national economy as a whole will increase by 17-20 per cent during the plan period. Not less than 90 per cent of the increment in the national income will be obtained through greater labour productivity.

Entering on the construction of a planned economy, the socialist countries had available the experience of planning development in the USSR, which had already demonstrated to the whole world its validity and effectiveness. Soviet planning experience was utilised in all socialist countries in its main general directions because of the common social and economic structure and class essence of the state, and the community of aims—the building of socialism and communism. This, in its turn, predetermined the community of basic principles and methods of planning in socialist countries. This did not mean a blind copying of the Soviet system of planning. Each socialist country contributes much that is new to the theory and practice of planned management of the economy.

The use of Soviet experience allowed other socialist countries to avoid the difficulties, mistakes and setbacks that the USSR could not avoid in organising the first planned economy in the world. Naturally the specific social and economic conditions in the socialist countries were taken into account. Over more than 35 years of their development socialist countries have accumulated a varied experience in drawing up and implementing national plans. At the present time a process of mutual enrichment of planning theory and practice is going on between these countries.

Planned management of the economy in socialist countries has an enormous international significance, going beyond the framework of the world socialist system. At the present time a tendency to make use of planning to influence economic development is appearing in non-socialist countries also. In its aims, content, effectiveness and social consequences economic planning, as practised in non-socialist countries, differs in principle from socialist planning.

The study and creative use of the experience of socialist planning can become one of the ways of increasing the effectiveness of planning in developing countries. The use of socialist planning experience by developing countries does not mean a mechanical borrowing of the methods of socialist planning without taking into account the specific social and economic conditions in these countries. The authors of the GOELRO plan wrote: "What, in fact, is a plan for the national economy in its detailed form? Could we possibly give a recipe for such a plan for all countries, ignoring the specific conditions of time and place? Of course not. That would give us an empty abstract formula, devoid of any effective content."¹

The influence of socialist planning on developing countries first manifests itself in their choice of the way in which they want to go. The experience of the USSR and other socialist countries helps nations that have freed themselves from colonial dependency to see the superiority of a planned socialist economy over a capitalist one.

The creative use of the methodology of socialist planning has great significance of the improvement of planning methods in developing countries. The methodological principles and procedure of socialist planning form an acceptable basis for developing countries.

The Soviet experience of economic planning is of special interest for developing countries, particularly during the transition period from capitalism to socialism. The economy of the USSR during the transitional period was characterised by diversity, there being several different social forms of production—patriarchal, socialist, small-scale commodity production, private and state capitalist.

¹ *Plan GOELRO*, Moscow, 1953, p. 32 (in Russian).

A similar social picture of the economy is characteristic of those countries which have only just set out along the road to socialism.

All this points to the importance of the study of the theory of planning the development of the economy in conditions of building socialism, that is, of national economic planning.

National economic planning in conditions of socialism is an activity of the state, its economic organs, industrial undertakings and of all working people aimed at the best utilisation of all production facilities for the all-round satisfaction of man's needs, and for setting up conditions for the further development of society and the individual. The state, as representative of all workers, who are the owners of all the means of production, carries out the function of managing production and distributing resources. This activity takes the form of planned management of the economy. Socialist planning differs from attempts at utilising planning in industrialised capitalist countries and in developing countries following the capitalist road.

The so-called planning of the economy in capitalist conditions is an elaboration by government bodies of economic prognoses and programmes, and measures for applying indirect pressure by the state on the development of the economy, in addition to the active market mechanism.

The present book is entitled *An ABC of Planning*. It must be borne in mind, however, that this ABC is not a simple one. To understand it, it is necessary to have at least an acquaintance with the basic propositions of economic theory and history and to know some elements of mathematics. It is not simple because planning embraces various facets of life: for example, production, with its factories, workshops and agricultural undertakings, saturated not only with simple mechanisms but also with complicated machines and plant; transport; trade and the circulation of goods, with their shops, depots, warehouses, banks, financial and fiscal establishments, customs houses; living conditions and activity of people with their varied personal and social requirements; the consumption of all forms of goods and services; the building and utilisation of housing accommodation; education; leisure and

sport (which also require goods and equipment of one sort or another). All these aspects of life are interdependent and interconnected. They are all the object of planning, the unified object, all parts of which are interconnected and at the same time highly complex.

Dealing with the management of a complex economic mechanism, specialist planners cannot operate by simple methods only. In order to study planning one must explain exactly what planning is (Ch. I, II, and III are given to this), how the plan for the whole country is devised (Ch. IV, V, and VI), how plans for the development of individual branches are prepared (Ch. VII), how the plan of work for various enterprises is drawn up (Ch. VIII). For a country establishing a basis for modern industry foreign trade and economic co-operation with other countries has great importance. Foreign trade permits the acquisition of equipment essential for the building of new economy. For this reason the last section of the book (Ch. IX and X) is devoted to the planning of foreign trade and the organisation of economic co-operation between socialist countries. This sequence is justified by the logic of the process of national economic planning as conceived and proved effective in socialist countries.

The present book is intended not only for specialists involved in economic planning, but also for readers having no special education in economics but to whom, because of their work or public activity, knowledge in the field of economic planning is essential. The book sets out, in a short and accessible form, the theoretical bases and practical methods of preparing economic plans in the USSR. At the end of the book there is a short glossary in which basic economic terms and concepts are explained.

Chapter I

THEORETICAL BASES OF SOCIALIST PLANNING

1. Objective prerequisites and tasks of planning

In any society production presupposes the distribution of labour and material and financial resources, in a definite ratio, between various sections of the economy. In capitalist countries the control of social production comes about spontaneously through the relationship of demand and supply of goods and services, and with the help of market forces. Each private employer organises production in such a way as to be able to sell his product and make a profit; in other words, so that the proceeds of sale will be more than the cost of production. If market demand exceeds supply then the product sells at a profit, part of which goes towards increasing production and consequent further growth of profit. The employer utilises labour whose cost is less than the value it creates. The sale of goods at cost, or above, depending on market forces, allows him to make a profit. If these conditions do not exist then production is cut back or the business is closed down completely as being unprofitable. In this way each employer acts as a private owner at his own risk and expense. As a result, supply and demand in the market are constantly changing. Relationships between sectors and between the volumes of production within sectors take shape spontaneously.

In a socialist state the owner of all the means of production, viz. machinery, equipment, buildings, etc. is the people. No citizen in a socialist society may be sole owner of a factory or railway. All citizens of the country are in the same position in relation to the means of production. It is precisely this that constitutes the real equality of all citizens in socialist society.

Social socialist property exists in two forms: state (belonging to the people as a whole), and collective farm-and-co-operative. Two forms of socialist enterprises—state enterprises and enterprises of co-operatives and collective farms—correspond to two forms of social socialist property.

In socialist countries the enterprises of the chief sectors of the economy—industry, transport, and construction—are state-owned. This means that the machinery, equipment and buildings in these enterprises belong to society as a whole, to the socialist state. Similarly their products are the property of the whole nation.

In agriculture and some other sectors of the national economy of socialist countries, alongside state undertakings, there are co-operatives (in Soviet agriculture—collective farms). In the USSR there are 26,000 kolkhozes (agricultural co-operatives) and 21,000 sovkhoses (state-owned agricultural enterprises). In the co-operatives, administrative and production buildings, perennial sowings (crops), cattle and likewise agricultural machinery, tractors, machine tools and equipment bought from state enterprises, are not the property of the people as a whole but belong to the given collective.

In the USSR and the Mongolian People's Republic all land is in social ownership; in other socialist countries the land on which co-operatives carry on their activities is their own property. In these countries there is also state and personal ownership of land.

There are distinctions between state enterprises and co-operatives. The produce of a collective farm, and the proceeds from the sale of its produce belong to the co-operative, and any profit remaining after the prescribed portion of the profits has been paid to the state is distributed at the discretion of a meeting of the collective.

In co-operatives, wages are paid from co-operative funds and depend on the financial results of the co-operative's work. Because of this co-operatives having different incomes pay different rates for similar work. In state enterprises equal work is, as a rule, paid at equal rates.

Notwithstanding the distinctions which exist, state enterprises and co-operatives are of the *same type*. Their economic basis is the social ownership of the means of

production. State ownership (by the whole people) represents the highest form of socialist ownership and is prevalent in the economies of socialist countries.

The setting up of socialist ownership of the means of production gives rise to a completely new form of economic ties between sectors and regions within the national economy—systematic planning. Only under socialism is the planned development of production possible. The management of production, the regulation of exchange, and the distribution of products are carried on by society through state planning and economic agencies, by establishing accord between the requirements of the national economy and its resources in the interests of all members of society.

Systematic planning is the economic form of social organisation of the national economy under the conditions of socialism. It ensures the most rational use of the productive resources of society, and eliminates the colossal waste of labour characteristic of capitalist organisation of production as a consequence of its anarchical and uncontrolled nature.

The material prerequisites for the planned organisation of social production already exist under capitalism as a result of the emergence and development of large-scale machine production. This and the progress of technology impart a direct social character to production, which shows itself, in particular, in the complex interdependence of various sectors of production, in the growth of its concentration and centralisation and the strengthening of ties between enterprises and between regions.

The material prerequisites for systematic planning on the scale of the national economy develop further under state-monopoly capitalism. Large-scale machine production, with its clearly expressed social character, serves as a material base for state-monopoly capitalism. Social production more and more needs planned management of a systematic character. However, under capitalism, it is not possible to ensure systematic planning on the scale of the whole economy, insofar as the prevailing private and state capitalist ownership gives rise to anarchy in production.

As long as production is based on capitalist ownership, separation and lack of control will be preserved in eco-

conomic life, insofar as production and produce are the property of individuals or groups of capitalists. Each owner, or group of owners, fights first and foremost for private profit and private interests which, because of competition, run counter to the interests of society.

Under socialism the whole of society owns the basic means of production. Consequently society, in the shape of the socialist state, has the possibility of taking into account and distributing all resources in proportions which best satisfy social needs, including the needs of each individual worker. Systematic management of production is implemented in accordance with the needs of society as a whole and those of the workers.

Systematic planning in this way expresses the public control of social production. The unity of interest of all members of society is expressed in the planned character of socialist production, based on the ownership of the means of production by the whole people.

A distinguishing feature of capitalism is the disproportion of social production. Graphic examples of this are ever growing unemployment, inflation, economic crises and the under-utilisation of a considerable part of productive capacity.

Many Western scholars attempt to put forward elements of planning in the capitalist economy as proof of the possibility of planning in capitalist countries. State-monopoly control can contribute only some few elements of planning to various economic processes, but is incapable of eliminating uncontrolled development and ensuring systematic planning on the scale of the whole economy.

It is a different matter under socialism. Social production is a purposeful unification of different sectors and forms of production into a single system in which each participant acts in agreement with all the others.

Lenin wrote that "socialism is inconceivable . . . without planned state organisation, which keeps tens of millions of people to the strictest observance of a unified standard in production and distribution".¹ Planning has an objective character and comes about as a result of people's conscious activity.

¹ V. I. Lenin, "Left-Wing' Childishness and the Petty-Bourgeois Mentality", *Collected Works*, Vol. 27, Progress Publishers, Moscow, 1965, p. 339.

Systematic planning as a characteristic feature of socialism shows itself in the setting up and maintenance by society, as represented by the socialist state, of a constant balance between social demand and production. Planning implies proportionality, the balancing of the main economic resources and their distribution on the scale of the whole society. Systematic planning is the conscious maintenance of proportion throughout society. Planning expresses the objective necessity of organising production on the scale of the whole society according to a *unified state plan*.

Systematic planning is practised in socialist countries in the form of *state planning*, which ensures the continuous, steady growth of production, and a constant improvement in the living standard of the population. Systematic planning is achieved through: consciously taking into account public needs when drawing up plans for economic and social development; centralised distribution of productive resources between economic sectors and regions; conscious control of the process of forming the most important national economic ratios, and a widespread attraction of workers to the drawing up and fulfilling of the plans.

Systematic planned development of the economy is one of the decisive advantages of socialism. All the successes of socialist countries in the fields of the economy, science, technology and social development are connected with the planned management of the national economy.

Attempts by bourgeois states to introduce economic programming witness to the recognition of the necessity to maintain proportionality. The activity of the bourgeois state in the economic sphere is limited by the existence of private ownership of the basic means of production.

At the stage of state-monopoly capitalism the forces of monopoly and the bourgeois state are united in a single mechanism, which is utilised for the enrichment of the monopolies and the oppression of the workers. Therefore such control may be called state-monopoly control.

Only with the rise of social ownership of the means of production and the transfer of power to the hands of the workers can the national economy become a single whole, and not be divided amongst various owners, as is the case under capitalism. Systematic planned development

of the economy under socialism becomes essential: without systematic planned development of the economy on a national scale a society cannot be socialist.

Thus, the most important economic prerequisite of planning is the presence of social socialist ownership of the means of production.

Another most important prerequisite of planning—this time a political one—is the transfer of power to the hands of the workers.

The socialist state—the power of the working people—has from the very first days of its existence organised the economic life of the country. The economic function is the most important function of the socialist state. Socialist revolution does not end with the transfer of power to the hands of the workers. The workers utilise state power to complete the socialist transformation, and to control and plan the economy.

A third prerequisite of planning is the organisational prerequisite, that is, the creation of a system of organs for planning and controlling the national economy, and government statistics.

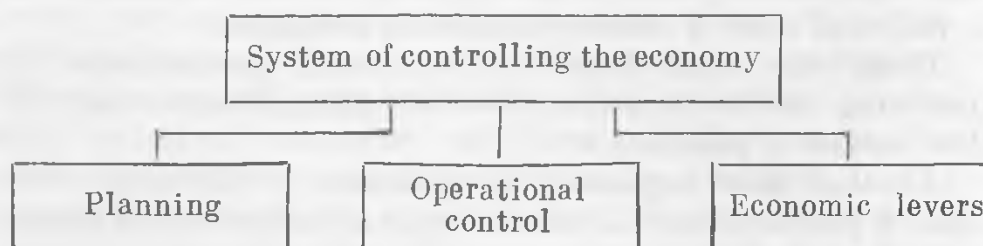
An essential condition of socialist planning is the involvement of workers in planning work, and the staffing of the organs of planning and management with highly qualified specialists, devoted to socialism and armed with Marxist-Leninist theory.

All the given prerequisites are parts of an organic whole, mutually bound and mutually conditioned.

National economic planning is the core of a managed economy. Planning is organically combined with other forms of control—operational control of various forms of activity in sectors of material production and the whole economy, and likewise with the use of economic levers and incentives (prices, bonuses, credit, profits). Economic levers create a material interest within enterprises in the achievement of planned targets on schedule.

The basic aim of planning is to determine the direction of development of the economy and to secure the proportions (correlation in development of separate sectors and economic regions). Operational control basically settles questions of current activity and co-ordination of the work of ministries, departments and enterprises.

Diagram of the control of the national economy



The utilisation of economic levers in a socialist society is caused by the existence of commodity-money relationships and the development of material stimulation of work collectives towards better results of their work. Economic levers should exert active pressure on production in the direction given in the plan. To do this it is essential for them to be co-ordinated with specific tasks of each planning period.

Planning plays a decisive role in relation to other methods of management. Operational control and economic levers are, to a considerable extent, directed towards ensuring the fulfilment of the plans.

The most important tasks of economic planning under socialism are:

- ensuring the steady growth of the well-being of the workers on the basis of the steady development of the economy and the acceleration of scientific and technological progress;

- the strengthening and development of a socialist economic system;

- determining the material, labour and financial resources of society and their most effective distribution and exploitation in response to current and future demand;

- to search for the path of fast development of the economy and to change its structure with the aim of increasing the effectiveness of utilisation of resources;

- the achievement of balance between parts (sectors) of the economy, and the maintenance of proportion in economic development;

- the provision of technical, economic and organisational conditions for the fulfilment of the plan;

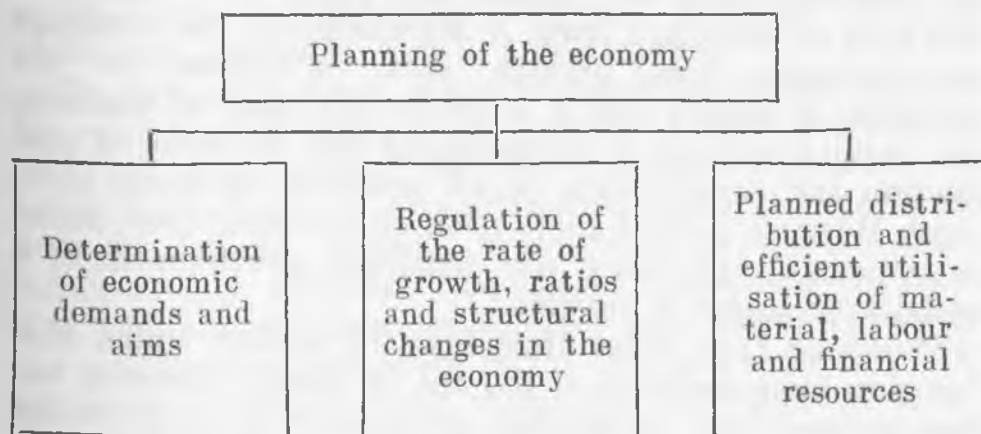
—the creation of a system of monitoring measures for the fulfilment of economic plans;

—co-ordination of the national economic plans with the plans of the other countries in the socialist community.

One of the functions of economic planning is to show up *social needs*, which include personal and social consumption by the population, and industrial consumption. Demands are not unchangeable, they change under the influence of many factors, in particular, scientific and technological progress and the growth in incomes of the population. It is essential to take into account not only current demands but also long-term demands connected with the setting up of the material and technical bases of socialism and communism. The proportionality established in the plan must correspond to public demand.

Another important function of planning is that of determining the *means and basic directions needed for the satisfaction of these demands*. The possibility of satisfying public demand is limited by the volume of resources which the given state has at its disposal. To increase the efficiency of utilisation of these resources is an important task of planning. The functions of planning of the national economy are set out in the following diagram.

Functions of planning of the economy



2. Planning and the system of economic laws of socialism

The theoretical base of socialist planning is Marxist-Leninist political economy, therefore any planner must know the basics of Marxist-Leninist political economy. Political economy studies the production relations of people and economic laws governing the production, distribution, exchange and consumption of material benefits. Under socialism state planning and direction are based on the recognition and utilisation of objective economic laws. Economic laws are laws of the development of relations of production, that is, those relationships that arise between people in the process of production, distribution, exchange and consumption of material goods and services. The ownership of the means of production lies at their base.

Economic laws of the development of society must not be confused with juridical laws. Juridical laws are decrees of the state promulgated according to the wishes and in the interests of the ruling classes.

An economic law is an internal, essential and constantly renewed connection between economic phenomena and processes, determining the course of their functioning and the possibility of development.

Economic laws have an objective character, they function independently of the consciousness and will of people. But this in no way means that people are helpless in the face of economic laws. A knowledge of the workings of economic laws permits their utilisation in the interests of society and a scientific approach to planning the basic directions of development and the ratio of production and consumption at all levels of economic planning. Without correct application of economic laws neither systematic planning nor balanced development of a socialist economy is possible.

Economic laws differ from laws of nature, which also function independently of the will of people. Laws of nature existed long before the appearance of man, whilst economic laws arose only on the appearance of society, in the process of productive activity.

Under capitalism, and in other antagonistic social-economic formations, economic laws function spontaneously.

Under socialism economic laws lose their uncontrolled character and are utilised by society in a planned way. In this lies the enormous advantage of socialism over capitalism, because the planned utilisation of economic laws rids society of the destructive consequences of their working.

Among economic laws are those which function in all or some social-economic formations under the rule of different production relations. A number of economic laws are inherent in socialist relations of production. They are the following:

—*the basic economic law of socialism* lays down the necessity of the constant expansion and improvement of production on the basis of the widest possible exploitation of the achievements of science and technology for the most complete satisfaction of the constantly growing material and spiritual needs of society and the all-round development of all members of society;

—*the economic law of planned, proportional development of the socialist economy* expresses the necessity for and the possibility of systematically planned organisation of the whole national economy. It applies in both phases of the communist mode of production—under socialism and communism. The basic condition for the working of this law is the supremacy of socialist ownership of the means of production, above all, ownership by the whole people. This law brings about the co-ordinated management of the economy as a unified whole on the basis of maintaining proportionality between different forms of production, corresponding to public needs.

The law of planned, proportional development requires the co-ordinated action of all sections of the national economy, which is ensured by the conscious regulation of social production and production relations. In accordance with the law of planned, proportional development, socialist society regulates production, exchange, distribution and consumption, establishes and varies economic ties, correlations and ratios in the national economy. This regulation is implemented by means of the planned distribution of productive resources (labour, material, natural, financial) among sectors and regions.

The sphere of action of the law of planned, proportional development expands with the development of a socialist

society, which is conditioned by the rapid growth of productive forces, the strengthening of the social character of production, the development and deepening of economic ties and the improvement of socialist relations of production.

This law acts from the moment of origin of social ownership of the means of production and the transfer of power to the workers. At the beginning of the transitional period from capitalism to socialism the sphere of action of the law of planned, proportional development is confined to the socialist structure. As the position of the socialist structure in the economy expands so also does the sphere of action of this law, and the possibilities and scale of planning simultaneously expand and its forms and methods are improved.

With the formation of a world socialist system new conditions for the action of the law of planned, proportional development of the national economy were created. The socialist countries who are members of the Council for Mutual Economic Assistance implement joint planning action and co-ordinate national economic plans on the basis of this law;

—*the law of economy of working time under socialism* gives rise to the objective necessity of determining those directions of development of production which will ensure an increase in the efficiency of production, i.e. the satisfaction of public and personal needs with minimal outlay. The increased efficiency of production is expressed first and foremost in the saving in working time, that is, in the increase in productivity of labour;

—*the law of value* lies in the fact that production and exchange of goods must take place in accordance with the expenditure of abstract, socially essential labour. In conditions of socialism it dictates the necessity of the functioning and planning of all production, distribution, exchange and consumption in the form of commodity-money relations; the approximation of prices established in planning to the socially essential expenditure of labour; the equivalence of exchange between the state and collective farm-and-co-operative sectors, and between different industries and enterprises;

—*the law of distribution according to work done* determines that the distribution of material benefits for person-

al use is carried on in accordance with the quantity and quality of labour expended by the worker in social production.

The unity of socialist production relations conditions the interaction of the economic laws of socialism as a unified interconnected system.

Such interconnection exists between the basic economic law of socialism, the law of planned, proportional development, the law of continuous growth of productivity of social labour, the law of distribution according to work done, and the law of value. In socialist planning not just one economic law finds its expression, but their whole system. In the integral system of economic laws the leading role belongs to the basic economic law, which defines the main aim of socialist production as the more and more complete satisfaction of the constantly growing material and spiritual needs of the members of society and their harmonious development.

Taking this law into account when planning signifies the necessity, when drawing up the plan, of determining in what way and on what scale it is essential to raise the standard of living of the people, and what should be, for this, the directions of development of production and the increase of its efficiency, the acceleration of scientific and technological progress and growth in the productivity of labour.

The productivity of labour is measured by the quantity of products produced by the worker in the sphere of material production over one unit of working time (hour, shift, year), or by the amount of time expended in the production of one unit of the product. The higher the productivity, the greater the quantity of material benefits which the society disposes of, the greater the possibility of improving the living standard of the people. The law of growth of productivity of labour means, for planning, the necessity of a search for, and the laying down of, a path for increasing the productivity of labour. This economic law is similarly connected with the law of distribution according to work done. The material position of every worker is closely connected with the productivity of his labour. Wages also grow with growth in the productivity of labour. This also must be taken into account in plans.

Thanks to the taking into account in planning of the demands of the law of constant growth of the productivity of labour in socialist countries, high rates of growth in the productivity of labour were assured. In the USSR over a period of fifty years, from 1929 to 1978, the productivity of labour in industry increased 22.6 times, in rail transport 12.9, in agriculture 5.8 times. In the building industry the annual output of one worker in 1978 was 15.6 times greater than in 1928. In the Eleventh Five-Year Plan (1981-1985) in the USSR provision is made for a wide programme of mechanisation of labour, the introduction into production of the achievements of scientific and technological progress. As a result, the productivity of labour should grow by 17-20 per cent over the next five years.

High rates of growth in productivity played a decisive role in the creation of material and technological bases of socialism and in the solution of the tasks of communist construction. They permitted substantial changing of the ratio of productivity of labour in the USSR to that of industrially developed capitalist countries.

In the level of productivity of labour the USSR is outstripping a number of industrially developed capitalist countries, but still lags behind the leading country of the capitalist world—the USA. This is explained, in particular, by historical reasons. The economic development of the USA took its course in favourable conditions of external politics. Over the course of this century there has been no war on the territory of the USA, whilst at the same time in the USSR over the years of Soviet power more than 20 years have been years of war and post-war reconstruction of the economy.

Socialist production is commodity production, and in any commodity production the law of value takes effect. Under socialism the law of value ceases to be a regulator of social production, but operates within the framework of the basic economic law and the law of planned development of the economy. The law of value is expressed in the planning of various proportions in value form, in the utilisation of prices, credits, profits etc.

In conditions of socialism the size of productive resources of each enterprise is planned, markets for the produce and sources of supply are determined and a

wages fund, revenues and profit are established for the enterprise.

The law of value and its various elements—price, credit, return, profitability—are similarly used as economic incentives to ensure the fulfilment of the plan. In conditions of socialism the law of systematic planned development and the law of value further the development of *khozraschet*. *Khozraschet* is a method of socialist management of the economy, based on the comparison of financial expenditure and the results of production (the ability of an enterprise to pay its own way) and profitability.

The law of distribution according to work done permits planning and material stimulation to be organically combined. Planning agencies plan funds for economic incentives for the enterprise, the size of which depends on the indices of activity of the enterprise. Systematic planned utilisation of the law of distribution according to work done is aimed at increasing the productivity of labour and the quality of work, and at the subordination of a system of material incentives to the aims and tasks of the plan.

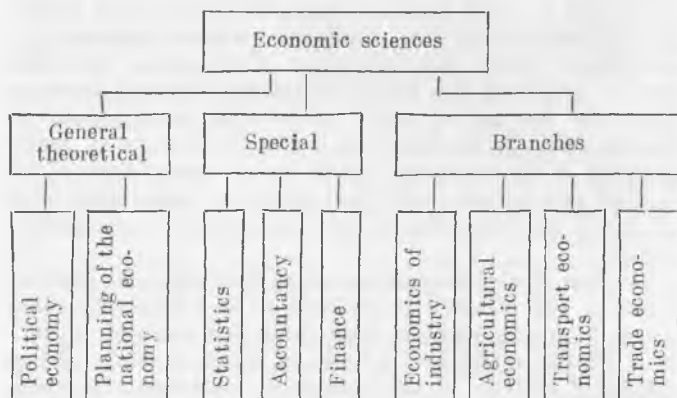
Deliberate planning of the economy does not in any way mean that the planners may act as they think fit, or set up any proportions and tasks they wish. They adapt their actions to the demands of objective economic laws. The efficiency of planning depends to an enormous extent on the ability to comprehend the mechanism of economic laws.

Thus, *the science of planning the economy*, being one of the branches of economic science, *studies concrete ways and means of applying the economic laws of socialism when preparing national economic plans*. Planning allows the demands of economic laws to be translated into the language of planning decisions.

The science of economic planning is closely tied to other economic sciences—statistics, accountancy, finance, etc.

With the growth in scale of production, the increased complexity of its structure and productive economic ties and the expansion of the field of action of the law of planned, proportional development, economic planning is becoming more complicated. Therefore in all socialist

*Diagrammatic example of the classification
of economic sciences*



countries great attention is being paid to questions of development of the theory of economic planning, of the improvement of methodology and organisation of planning, and the improvement of the economic mechanism for the control of the economy.

3. Principal distinctions between
socialist planning
and capitalist programming

After the Second World War interest in planning was strengthened in non-socialist countries. In industrially developed capitalist countries state regulation of the economy began to be practised. The growing interference by the bourgeois state in the economy and the development of its regulating activity are conditioned by a number of factors. Among them are the high level of development of productive forces, the many-sided convergence of the state with monopolistic associations, and the influence of economic competition of socialist and capitalist systems, which forces capitalist countries to strive to utilise various methods of stimulating the development of the economy. Considerable influence was exerted on the develop-

ment of state-monopoly regulation by the scientific and technological revolution, which cannot successfully develop without state assistance.

The bourgeois state exercises its regulating functions, relying on state and state-private (mixed) sectors of the economy. The state sector developed considerably in capitalist countries after the Second World War. In capitalist countries the state sector includes mostly branches of production infrastructure, such as power, transport and communications. In a number of European countries there are state undertakings in the mining and processing industries. Monopoly capital is strongly opposed to the nationalisation of privately-owned property in the leading sectors of the economy, but is moving towards the setting up of combined state-private companies.

The monetary, credit and financial system is an important instrument in state-monopoly control. The bourgeois state concentrates enormous financial resources in its own hands and redistributes them through the state budget. These funds are used to finance the economy, its infrastructure, the armed forces and the state apparatus. The bourgeois state controls the activities of the central banks and special financial institutions, and regulates the credit system of the economy. It also employs administrative measures and legislation to exert an active influence on the economy.

One of the most highly developed forms of state-monopoly regulation is programming of the economy, that is, the preparation by the state of plans and programmes of economic development and a system of steps for their implementation. Programming, given the title "indicative planning" (that is non-obligatory, but recommended), is widely practised in France, Holland, Japan, Sweden, Italy, and several other countries. State programmes of economic development are not obligatory for the employers; they may take part in the implementation of these plans in accordance with their own business interests.

The main purpose of the economic functions of the bourgeois state is the preservation of a system of exploitation, the strengthening of private ownership of the means of production, the creation of conditions in which it is easier for the monopolies to extract maximum profits. Thus, state programming is a weapon for the conser-

vation of the production relations of capitalism. It serves the purpose of helping corporations. It is precisely in this that the reactionary essence of capitalist programming lies hidden. State resources intended for the implementation of economic plans are used by the monopolies in their own interests. Monopolies utilise resources, obtained through the fiscal system of the state, to finance military production, to carry on scientific and technological research and for new industrial building. This brings them enormous profits.

In conditions of capitalism state interference in the economy facilitates the increase of the competitive capabilities of monopolies, and leads to the transfer of the difficulties of the development of the capitalist economy to the shoulders of the workers. State capitalist planning is, by its nature, antagonistic to the interests of the workers and is implemented at their expense in the interests of the employers.

Deep differences in the nature of socialist planning and capitalist programming, the opposition of their aims and social consequences give rise to major differences in the methods and organisation of preparing plans and of their fulfilment.

Social ownership of the means of production in socialist countries allows centralised planning to be combined with the economic independence and initiative of enterprises, and all the resources of the country and the creative energies of the workforce to be mobilised for the acceleration of social and economic development. This opens up the possibility of organically combining methods of centralised planning with the utilisation of cost levers within the framework of a unified system of controlling the national economy. In conditions of capitalism state programming does not replace the market mechanism, the market subordinates state programming to itself.

All this testifies to the incompatibility of the concepts of planning and programming. The basis of their opposition lies in the mandatory, all-embracing character of socialist planning and the limited, indicative character of capitalist programming.

Chapter II

THE ORGANISATION OF PLANNING

The drawing up of a comprehensive plan for the development of the economy of a country, which embraces, in essence, the activity of all existing economic units, and the construction of new ones, cannot be carried out by a small group of experts alone. Even more impossible is organisation of active supervision over the pace of fulfilment of the plan by the efforts of a limited group of specialists. The planned management of the economy presupposes the creation of a branching system of planning agencies and organs of supervision, the active participation of the workers in the preparation of the plan and the monitoring of its fulfilment.

The contemporary organisation of planning in the USSR is the result of a lengthy period of historical development. At the present time the organs of planning and control decide the complicated task of planning the co-ordination of the activity of hundreds of thousands of industrial, agricultural, transport and other enterprises, and an enormous network of trading, cultural, educational and service undertakings. The state plan includes providing enterprises with basic raw materials, fuel, energy, manufactured articles, workforce and financial resources. Basic marketing outlets and types of consumers of the output are provided for the most important products.

As distinct from those of socialist countries, plans for the development of the national economy of developing countries represent a collection of general estimates of the possible development of the economy as a whole and a more detailed programme of investment. The co-ordina-

tion of activity of all sectors, and more so of different enterprises, has not yet become the aim of planning in developing countries.

The organisation of socialist planning is based on the principle of a combination of centralised planned management with the operational economic initiative of enterprises, and with the creative initiative of the masses. This is the principle of democratic centralism.

A number of developing countries, setting out to formulate principles of economic planning, naturally strive initially to draw up a plan for the economic development of the country as a whole. This stage is undoubtedly essential. From such a plan one requires specifics, orientation, an indication of resources, a decision as to who shall carry out the plan. It is a pledge of its fulfilment. Work on the drawing up of a plan is only the beginning of planned control. After drawing up the plan it is essential to accomplish a great deal of organisational work in its fulfilment.

The experience of the USSR and other socialist countries points to the fact that the implementation of national economic plans demands constant state direction of the economy and its separate sectors and enterprises. Organising the fulfilment of the state economic plan is the most important and difficult stage of planning.

1. The structure of planning organs in the USSR

Direct work on planning is done by the planning organs—*state* (the State Planning Committee of the USSR, similar committees in the union and autonomous republics, planning commissions of the executive committees of territorial, regional, district Soviets of People's Deputies), *departmental* (planning and economic boards and sections of ministries and departments) and *production* (planning sections of enterprises and organisations).

State planning organs are divided into three groups—*national*, *republican* and *local*. Organisationally they represent a unified system. Their common task is the drawing up of comprehensive plans for the development of the

economy (for the country, union or autonomous republic, territory, district or region) and checking their fulfilment.

The USSR State Planning Committee (Gosplan) is the central organ of national economic planning covering the whole state. It is directly subordinate to the Council of Ministers of the USSR and implements nationwide state planning. Gosplan concentrates its attention on ensuring national economic proportions and connections, on raising the efficiency of social production, the survey of resources for the acceleration of the growth of national income and the raising of the living standard of the population. The main task of Gosplan is the preparation of state plans for social and economic development.

Gosplan not only draws up national economic plans but also watches over the course of their fulfilment. In this, particular attention is given to the timely bringing into action of productive capacity, especially of new types of output. Gosplan draws up measures for the timely prevention of individual disparities in economic development which may arise during the fulfilment of the plan.

Special functions in nationwide planning are carried out by state committees of the Council of Ministers of the USSR: for the building industry; for science and technology; for material and technical supplies. The functions allotted to these organs in the system of state management of the economy can be seen from their titles.

Planning by sectors of the national economy is the responsibility of the respective ministries and departments. The management of production in the USSR is supervised by the ministries, as is also the activity of research, development and design organisations of the corresponding branches of industry.

Territorial planning is carried out by local planning organisations—planning commissions set up by Soviets of People's Deputies of cities, districts and regions. Regional, city and district planning commissions work out draft comprehensive plans for the development of the economy and culture. After confirmation by the executive committees of Soviets of People's Deputies (local councils) these plans are forwarded to higher planning organs.

Gosplans of the union republics determine, on the basis of all-round study of the possibilities and needs of the given republic, the most expedient proportions in the de-

velopment of its economy, the effective allocation of productive capacity, the paths of comprehensive development of the economy in conjunction with the suitable specialisation in the all-Union division of labour. Consequently, their task is to ensure the correct combination of sectoral and territorial principles of planning.

The basic tasks of district, city and regional planning commissions are the revealing of additional possibilities of increasing the output of industrial and agricultural produce; the preparation of proposals for the most effective use of capital investments and the available natural wealth, productive assets and labour resources of the economic region; the improvement of the allocation of productive capacity, taking into account the specialisation of production and the inter-regional transport facilities.

2. The system of plans and indicators

In the USSR plans and the order of their interconnection can be presented in the form of a definite system. At its base lie the plans of productive enterprises; then, along the line of sectoral planning, come the plans of production associations and the higher plans of central sectoral organisations (ministries, state committees). Territorial planning includes the plans of local territorial organs and of union republics. The state plan for the development of the national economy of the USSR coordinates all these plans.

For the duration of the plan period the unified system of economic plans includes: a comprehensive programme of scientific and technological progress (STP) for 20 years broken down into five-year plans, the basic guidelines of economic and social development of the country for 10 years, five-year plans and annual plans. In this system of plans the well-defined interconnection of scientific, technological, economic and social planning is assured.

The comprehensive programme of STP and the basic guidelines of the economic and social development of the USSR are forms of continuous planning. Every five years essential amendments and amplifications, which take into

account the achievements of science and technology, are introduced into them. Such order of preparation permits us constantly to have a long-term perspective of the development of scientific and technological progress, which creates favourable conditions for the correct determination of national economic ratios.

The main strategic tasks of the development of the economy over a ten-year period, in accordance with the needs of society, are defined in the basic guidelines. The basic directions of economic and social development of the various sectors, and of the economies of the union republics and economic regions are planned in them.

The preparation of the basic guidelines of economic and social development over a ten-year period provides a scientifically based perspective for the drawing up of the five-year plan.

Five-year and annual plans are a standard part of the system of plans. Target figures according to the basic economic indicators and normatives are worked out for all years of the five-year plan and are stable. The stability of plan indicators in the five-year plan creates conditions for the effective organisation of their fulfilment.

The five-year plan, being a part of the basic guidelines of the economic and social development of the USSR, represents the basic form of economic planning. It includes all the basic indicators of the development of the economy. Within the five-year plan, balances of material and labour resources, a financial balance, the balance of monetary receipts and expenditure by the population, and economic standards are set up for each year of the plan.

The five-year plan must be balanced for all basic indicators. It is worked out on the basis of a system of scientifically valid technological and economic norms according to the types of work, and the expenditure of raw and other materials and labour, and similarly of normatives for the utilisation of productive capacity. Stable wholesale prices in industry, budgeted prices in capital construction and freight tariffs are maintained over the whole five-year period. If an enterprise achieves a reduction in the cost of production, then this leads to an increase in the profit of that enterprise. On the basis of the state five-year plan of economic and social development and in conjunction with it, five-year plans for the development

of the economies of the union republics and economic regions, sectors, enterprises and organisations are worked out.

Annual plans are directed towards the unconditional fulfilment of the tasks of the five-year plan. The tasks of the annual plan cannot be set lower than the target figures of the five-year plan. The creation of the annual plan begins from the lowest echelon—the enterprise. The state plan is composed both in value (total) and natural expressions—according to the quantity of one or other type of output to be produced in the plan period.

The national economic plan represents a set of tasks, which are set out for individual branches of the economy according to the aim put before the economy for the given plan period. For convenient utilisation of the plan these tasks, which are also called indicators of the plan, are grouped into separate sections.

The structure of the state plan, naturally, depends on the extent to which the economy is developed, the social and sectoral structure of material production, and on the aims and tasks of the plan.

Sections dealing with social problems occupy an important place in the state plan. Perspectives of further increase in the incomes of the workers, the development of science, culture and health care are projected in the plan.

A rise in the standard of living of the people in conditions of socialist society is attained on the basis of technical progress and the improvement of technology, mainly as a result of increased productivity of labour. Therefore great attention is paid in all sections of the plan to questions of the productivity of labour.

A national economic plan contains sections which define the development of industry, agriculture, transport and communications, foreign trade, capital investments, finances, material and technical provisioning, retail commodity circulation, and the development of separate economic regions. The general section of the plan is a composite plan for the development of the economy, which includes the basic indicators for material production, labour and earnings, finances, manufacturing cost and accumulation.

The division of the economic plan into sections reflects the real forms of social division of labour and the special-

isation of production in industry and other branches of the economy. Normal functioning of this organism presupposes co-ordinated action of its separate elements, and strict proportionality in their development.

The primary element in the whole system of sectoral planning is the plan for an enterprise. This specifies the volume and period of production, the productive resources necessary for this, and also the rational economic ties with other enterprises and organisations and, finally, financial indicators of economic activity (see Chapter VIII).

Plans for the middle echelon (firms, associations) aggregate the plans of enterprises and include a series of new factors for the co-ordination of enterprises subordinate to them. The solutions to questions of specialisation and co-operation of production, questions of technical policy, as also wages, prices, sale of output and others are contained in them.

Plans of the central organs (ministries, state committees) are comprehensive plans for the development of the given branch of the economy. Provision is made in them for the volume of basic types of production of the given branch, wages funds, technical re-equipment of enterprises, specialisation, co-operation and combining of production; new building, taking into account the best utilisation of working capacity and fixed assets; financial indicators.

In sectoral plans provision is made for the priority development of the most efficient production processes, the deepening of specialisation and co-operation of sectors, the mechanisation and automation of production processes, the manufacture of models of major new machines, mechanisms, equipment, materials and of consumer goods. Great attention is paid to the working out and adoption of progressive rate of expenditure of materials, fuel and labour, and to the rational use of productive capacity, the growth of the productivity of labour and the lowering of production costs.

All the plans of separate branches of production are strictly co-ordinated and form a unified national economic plan. Only as a result of the co-ordination of the sectoral plans can we create that conscious proportionality in the national economy which represents the most important result of planning.

With all the importance of sectoral planning there remain many questions of economic ties of industry within the territory of the country. Therefore it is essential to combine sectoral planning with territorial planning according to economic regions. This is dictated primarily by the fact that each enterprise has connections with other enterprises in the given economic region. Moreover, the necessity for regional (territorial) planning is conditioned by the presence of enterprises which are subordinate only to local and republic government organs.

The state plan contains a whole system of indicators (tasks) which reflect the political and economic objectives of the plan. Plan indicators can be separated into *mandatory*, i.e., endorsed by the government—the Council of Ministers of the USSR and Gosplan—and *estimated*, determined by the enterprises themselves. The system of indicators of the plan, and their separation into mandatory and estimated cannot be permanent. Complication of the conditions of production, of economic ties and the growth of productive capacity necessitate changes in the system of indicators of the plan. When establishing the mandatory indicators the central organs are guided by the interests of society as a whole, they have information on the activity and plans of all enterprises, on productive resources and public needs. Only the central organs of administration are in a position to ensure the balance of the plan through its basic indicators.

Plan indicators are subdivided into natural and value indicators. Natural indicators are reckoned in units characterising the basic physical properties of the products, or their purpose: for example, the quantity of oil extracted is measured in tonnes, the production of cars in units, the output of fabrics in metres or square metres. *Natural indicators* serve for characteristics of the material structure of production. The production of industrial and agricultural products and their nomenclature, i.e., the enumeration and volume of productive capacity are planned according to natural indicators. These are widely used in the preparation of material balances, which helps to gauge the demands of production for material and technical resources.

Value indicators are employed in planning as general characteristics of rates and proportions of the national

economy, for the creation, distribution and utilisation of the revenues of the state. Value indicators are calculated in either constant or current prices. Current prices permit the actual economic relationships to be described, whilst constant prices are calculated for the description of the dynamic of production.

Plan indicators likewise subdivide into quantitative and qualitative. *Quantitative indicators* express the volume and scale of production in physical units. *Qualitative indicators* characterise the economic efficiency of production, for example, indicators of the productivity of labour, increase of profitability, lowering of unit cost, technological and economic norms for the use of machines, equipment and raw materials, indicators of the quality of the product.

Plan indicators are worked out, as a rule, in three sections: for the economy as a whole, for sectors, and for territories (economic regions). Many plan indicators are defined in social terms (according to forms of ownership).

All plan indicators form a unified system that cannot be unchangeable. With every new stage in socialist development it is improved in accordance with social and economic tasks.

At the present time in the five-year plan for industrial ministries, associations and enterprises more than 20 indicators are established. In addition, stable normatives, not liable to subsequent review, have been set down in the five-year plan. Among the more important unified economic normatives are interest rates for credit, normatives connected with the remuneration of labour, rates of amortisation deductions, sanctions for goods not delivered on time (as a percentage of the cost of output not delivered on time), and also normatives fixing the limits of permitted concentrations of harmful substances in the waste (effluent) from enterprises.

Individual economic normatives include a standard distribution of profits between society as a whole (i.e., the state) and separate enterprises, normatives for the formation of economic incentive funds, deductions from profits to be paid to general funds for the development of science and of technology. Standard economic normatives are applied to all enterprises regardless of their departmental subordination and conditions of work, while individual

normatives take into account the special characteristics of each enterprise.

In planning at all levels wide use is made of norms. A norm shows the minimal or maximum quantity of anything permitted by the plan or by normative state decrees, for example, the time required to produce one item, the quota of output, that is, the quantity of items that must be manufactured in one unit of time and so on.

Normatives are calculated rates characterising the expenditure of working time, of material or financial resources. Normatives most frequently express relative rates (normatives for the setting up of economic incentive funds, for example, are expressed in percentages), but some normatives are determined in value form or in physical terms. For example, price is also a normative. As distinct from norms, normatives as a rule fix the conditions of issue of resources and not their direct size. Thus, normatives for setting up a fund of material incentives are established by enterprises, but not its absolute dimensions.

Standard norms and normatives are also used in conditions of a capitalist system, for example, in the economic relationships between capitalist firms and the state. Thus, standard norms and normatives are used when setting tax assessments, amortisation deductions, payments for credit etc. However, as distinct from socialist states, norms and normatives are used in capitalist countries, as a rule, on a micro-level (at the level of the enterprise or firm) and not on the macro-level and include a limited number of indicators. Under capitalism they are calculated and applied in the interests of private capital, and not in common national aims.

In the USSR in a five-year plan (spaced out by years) the following indicators are affirmed:

For production:

- the growth of normative net output, which includes wages and averaged profit;
- the production of basic types of output in natural expressions.

For labour and social development:

- growth of the productivity of labour, calculated on net output;
- normative wage per rouble of net output;

- limit of the number of employees;
- normative development of funds for economic incentives.

Financial:

- the sum total of profits.

For capital construction:

- bringing into use of fixed assets, productive capacity and projects;
- quotas of capital investment by the state, and construction and installation work.

For the introduction of new technology:

- tasks in the fulfilment of scientific-technical programmes;
- working out, mastering and introduction of new and highly efficient production processes and types of production;
- basic indicators of the technical level of production and the most important forms of finished products;
- economic effect of taking scientific-technical measures.

For material and technical supplies:

- the volume of delivery of basic kinds of material and technical resources essential for fulfilling the five-year plan;
- the task of reducing the average rate of expenditure of the most important kinds of material resources.

The system of plan indicators and criteria at present in use in the USSR orientates work collectives and all economic and planning agencies towards the improvement of the final economic results of their activity, that is, to the greater satisfaction of social and personal needs, to raising the efficiency of production.

3. The sequence of preparation of plans

The established system of plans predetermines also the order of their preparation. A comprehensive programme of scientific and technological progress over 20 years is worked out by the Academy of Sciences of the USSR, the USSR State Committee for Science and Technology and the USSR State Committee for Construction and is

submitted to the Council of Ministers of the USSR and Gosplan not later than two years before the next five-year plan. Amendments are introduced into the Programme every five years.

Gosplan, starting from the social and economic tasks set out by the Communist Party of the Soviet Union for a long period and taking into account the comprehensive programme of scientific and technological progress, works out, together with the ministries and Councils of Ministers of the union republics, the Basic Guidelines for Economic and Social Development of the USSR for ten years, broken down into two five-year periods. Every five years amendments are introduced into the Basic Guidelines also. The draft Basic Guidelines are submitted to the Council of Ministers of the USSR by Gosplan not later than eighteen months before the next five-year plan.

In accordance with the draft Basic Guidelines for Economic and Social Development, Gosplan prepares basic target figures for the coming five-year plan, separated into years, and then forwards them to the ministries and departments of the USSR, and the Councils of Ministers of the union republics, who, in their turn, forward target figures to associations and enterprises.

On the basis of target figures, associations and enterprises work out draft five-year plans and submit them to their superior organs. Ministries and departments of the USSR, Councils of Ministers of the union republics, on the basis of the draft plans of the enterprises and organisations work out draft five-year plans and present them to Gosplan. On the basis of these draft plans Gosplan works out a draft five-year state plan for the social and economic development of the USSR and submits it for discussion and approval by the policy-making organs.

Workers take an active part in the preparation of draft plans at all levels of management.

Plans for the development of the economy have a mandatory and specific character. They are endorsed by the organs of state power and after this become obligatory tasks, and moreover not only for enterprises but also for superior organs. Thus, planned targets assigned to the enterprise cannot be changed by superior organs. Ministries and departments can introduce changes in annual plans of production associations in line with their propos-

als, only in order to stimulate a rise in the quality of output or in connection with changes in demand.

The compilation of the annual plan starts from below, from the production enterprises and organisations. Annual plans of economic and social development of the USSR are worked out on the basis of targets and norms of the five-year plan for the given year. Production associations (enterprises) and organisations in their annual plans, determine independently the nomenclature (assortment) of output against orders from consumers in accordance with agreements concluded. Taking into account the tasks of the five-year plan, associations (enterprises) establish long-term economic ties and conclude agreements with the suppliers of raw materials and the consumers of their products, and with scientific research institutes.

Enterprises producing consumer goods conclude five-year economic agreements with trading organisations, which strengthens the role of the consumer in the formulation of production plans.

4. Checking the fulfilment of plans

In socialist countries the monitoring and verification of the fulfilment of plans is a public matter. Both organs of state management, planning organs and the workers themselves take part in this.

The successful fulfilment of any economic plan is ensured by people working in factories, in institutes, on collective farms, on building sites. In socialist countries the workers are not simply the executors of the plan, they are the masters of their country and therefore take an active part both in the working out of plans and in their fulfilment and control.

Party and trade union organisations in enterprises play an active role in checking the fulfilment of plans. Shop-floor workers, technicians and trained engineers, collective farmers, office workers, through their own public organisations, their standing production conferences, and People's Control organs in all enterprises, carry on daily supervision over the fulfilment of economic

plans. Local Soviets of People's Deputies take a most active part in the working out of plans and control over their fulfilment. The progress of fulfilment of plans is regularly discussed at meetings of the executive committees and sessions of the Soviets of People's Deputies.

Organs of state management and in the first instance planning organs ensure the observance of planning discipline, resolutely cut short any manifestations of regionalism, and forestall non-fulfilment of planned tasks. An important role in checking the fulfilment of plans belongs to the banks, which exercise financial control over the observance of planning discipline.

Gosplan exercises control over the fulfilment of planned tasks by ministries and departments of the USSR, and by union republics. Control over the fulfilment of the plan by dependent enterprises is exercised by the appropriate ministries.

The purpose of checking the fulfilment of economic plans is not to ascertain shortcomings and blunders in the fulfilment of the plan, but to discover unused production reserves, to carry on the decisive struggle against waste and bad management, to reveal and warn of possible disproportions.

At the contemporary stage of planning the task is to ensure the achievement of the targets laid down in the plan with the minimum expenditure of material, labour and financial resources. Therefore the checking of the utilisation of labour resources, control over the growth of labour productivity, over the efficiency of production and the quality of the finished product have very great importance. The basic instrument for the verification and analysis of the fulfilment of the plan is state statistics, which provides the essential information for analysis.

5. Socialist competition.

Counter-planning

Socialist competition of workers plays an important role in the organisation of the fulfilment of state plans. Socialist competition was born in the USSR in March

1929, the first year of the first five-year plan. Its aim was abundantly clear—to fulfil the first five-year plan ahead of time. Mass development of socialist competition ensured not only the fulfilment of the first five-year plan, but also its over-fulfilment.

The role of socialist competition in the mobilisation of the creative energy of the masses, in the formation of socialist collectivism, and in the education of the workers has grown even more in our day. Socialist competition is one of the ways in which the workers can take part in management, it was born of the whole economic system of socialism. It displays the attitude of comradely collaboration and mutual assistance of toilers free from exploitation.

Taking part in socialist competition workers' collectives and individual workers take on themselves more complicated obligations compared with the planned tasks. Taking on socialist obligations, the collective itself sets tasks additional to those of the plan.

The state plan represents mandatory state indicators, confirmed by legal norms, whereas socialist obligations exceeding the planned tasks are not regulated by law. Failure to carry them out does not bring with it a reduction in the incentive funds.

Important principles of socialist competition are:

- publicity, providing the possibility of knowing the results of the work of the individual collective and of each worker;

- comparability of results of work, providing the possibility of evaluating the real contribution of work collectives, and of each worker, to the building of socialism;

- the possibility of the practical spread of the experience of the foremost, the assistance of leading workers to all members of the collective in achieving the best results of labour.

Labour rivalry, arising in the course of socialist competition, expresses the striving of the workers to discover the fullest extent of their creative possibilities, and to make the greatest contribution to the building of socialism. Socialist competition facilitates the spread of the experience of the outstanding workers and draws the laggards up to the level of the leaders. It is a means

of developing productive forces, increasing the productivity of social labour, and perfecting production relations; it has an enormous influence on the formation of the new man, who is the builder of communism.

Socialist competition is constantly developing and perfecting. In the USSR since 1958 there has arisen a new form of socialist competition in the shape of the movement towards a communist attitude to work. It proceeds under the slogan "Study, live and work in the communist way". The growth in the cultural level and political consciousness of the workers is clearly displayed in this movement. Those taking part in the competition for a communist attitude to work take on the obligation not only to improve production indicators, but also to raise their own cultural, political and professional level. Such forms of socialist competition as the movement for the strengthening of collaboration between workers in science and industry; for an increase in the output of products made from salvaged material; for the over-all improvement of technical and economic indicators of work; for growth in output without increase in the workforce; for a rise in the quality of finished products and for a rise in productive efficiency and many others, also had a significant spread.

Characteristic of the present stage of socialist competition is its orientation towards the improvement of the final economic results, that is, towards better satisfaction of public demand from available resources. Workers in non-production branches such as health care, education, trading and management are also involved in socialist competition. In these fields basic stress is laid on improving the quality of work. In 1980 in the USSR 107.4 million people or 95.46 per cent of all workers took part in socialist competition, and 68.1 million people or 60 per cent of all workers took part in the movement for a communist attitude to work. The whole work of organising socialist competition is carried on by the most massive organisation of labour, the trade unions, under the leadership of party organisations.

Socialist competition has become considerably widespread in all socialist countries. In recent years there has been a growing interest in the developing countries towards the experience of the socialist countries in the

field of the organisation of socialist competition of workers. In a number of developing countries efforts are being exerted with the aim of organising competition between work collectives.

Centralised planning and socialist competition are closely bound together. Socialist planning of production cannot, outside socialist competition, bring out and take into account all the internal reserves at the disposal of every collective. If these reserves are not utilised then the plan will not be intensive and workable.

The fact is that the state plan is built on scientifically based, but (for objective reasons) on averaged norms and normatives. These, naturally, cannot take into account specific reserves, which may be disclosed with the help of labour enthusiasm or the creative initiative of the people, and which are at the disposal of every collective. Socialist obligations do not lean on averaged norms but on individual and collective creativity.

Even in the most thorough basing of a plan it is impossible to take into account additional possibilities and reserves which have not been discovered earlier, they can only appear in the process of competition, as a result of the daily creative search by each worker. Without taking into account socialist competition and socialist obligations of individual workers and the whole collective, production plans cannot be considered intensive. An intensive plan envisages the complete utilisation of the possibilities of the workers, machinery, equipment, and most rational utilisation of raw and other materials.

In the years of the tenth five-year plan (1976-1980) counter-planning, one of the forms of socialist competition, had a wide expansion in the USSR. Counter-plans express the determination of work collectives and every worker to make a positive contribution to the achievement of the targets laid down in the plan. A counter-plan is a counter-obligation of the work collective exceeding the targets of the state plan. Proceeding from the tasks of the state plan, collectives work out their own obligations. In this way the quantitative targets of the counter-plan are defined by the work collectives and not by state organs.

To the extent that the annual and five-year plans of the enterprise are stable, the work collectives, aware of

the tasks of the five-year plan for the next year, can activate the search for internal reserves of production in good time. Counter-plans are co-ordinated with production resources and are included in the annual plan of the enterprise. On fulfilment of the increased obligations of the counter-plan, deductions for the incentive funds are made according to increased normatives.

In the past counter-planning was directed mainly towards increased output. Moreover this was frequently done without taking into account the possibilities of material and technical provision and the demand for one or other product. In socialist countries at the present time chief attention is paid to increasing the efficiency of utilisation of productive capacity, economy in the use of raw and semi-processed materials, the increase of profit through a reduction in production costs, and raising the quality of the finished product.

Chapter III

FUNDAMENTALS OF THE METHODOLOGY OF SOCIALIST PLANNING

The methodology of socialist planning combines general principles of planning and methods of working out state economic plans and includes also a procedure of planning, that is, concrete ways and means of calculating different economic indicators of the plan.

The methodology of socialist planning is based on knowledge of and conscious utilisation of the objective laws of socialism, on the Marxist-Leninist theory of expanded reproduction. Component parts of this theory having an important significance for planning are the theses on the unity of productive forces and production relations, on the separation of social production into two subdivisions (production of the means of production and production of the articles of consumption), on the distribution of the aggregate social product to replacement funds and national income, on the distribution of the national income to the accumulation fund and the social and personal consumption funds, and on the most important economic proportions.

1. Principles of socialist planning

Socialist planning is characterised by a series of methodological *principles*, that is, its most characteristic features. Party spirit, a scientific approach, democratic centralism, the mandatory character of plans, the com-

bination of sectoral and territorial planning, the combination of long-term and annual planning, the securing of dynamic, proportional development of the economy on the basis of a comprehensive approach, determination of the main sections of the plan, all relate to the basic principles.

Let us take a closer look at these principles. Under socialism the *party spirit of planning* ensures its class orientation in socialist countries. Planning is an effective mechanism for putting into practice the policies of communist and workers' parties in socialist countries. The national economic plan is an all-embracing programme for implementing the social and economic policies of the CPSU. Lenin called the GOELRO plan the second programme of the Party. In socialist countries the basic guidelines for the development of the economy over the plan period and draft plans are discussed and confirmed at congresses and conferences of communist and workers' parties. Long-term and annual plans serve to mobilise the creative activity of the masses in solving the problems of building socialism and communism.

The clear class stand of socialist planning distinguishes it from capitalist programming, which, according to the protestations of bourgeois ideologists, apologists for capitalism, is a neutral instrument or an expression of the interests of all classes and groups. In practice capitalist programming is an instrument for the state-monopoly redistribution of national resources to the benefit of the most powerful entrepreneurs.

The principle of *a scientific approach to planning* expresses above all else the necessity of taking the demands of objective economic laws of socialism into account in planning activity. This principle also signifies the necessity for a thorough scientific basis of all the indicators of the plan. In planning it is essential to take into account the latest achievements of science and technology and use contemporary economic and mathematical methods and computer technology. The most progressive scientific and technical ideas are embodied in the plans of socialist and communist construction.

The scientific grounding of plans presupposes the careful consideration of public demand and productive resources, together with the trends of scientific and tech-

nological revolution and the possibilities of implementing them in production. The main attention at all levels of planning is paid to questions of the rational and efficient utilisation of resources. In plans a consistent line is taken towards the achievement of the greatest results. The solution of this problem is reflected by the whole system of plan indicators, such as growth in the productivity of labour, the dynamics of the input-output ratio, and economy in the use of material resources.

State planning (programming) in capitalist and a number of developing countries has to adapt itself to the action of the economic laws of capitalism, and to the conditions of market control. In its character, state planning is the exact opposite of the capitalist system, therefore planning under capitalism cannot have a firm scientific basis. In fact it rests on a combination of contradictory theoretical concepts.

The principle of *democratic centralism* reflects the dialectical unity of true democracy in planning and of socialist centralism. Democracy of planning shows itself in the wide participation of the whole nation in the preparation and fulfilment of plans of economic and social development. Centralism ensures the subordination of plans to the general interests of the state, the subordination of lower organs to higher, the mandatory character of the planning decisions of the higher organs for the lower, the observation of planning discipline and state control over the fulfilment of the plan.

Socialist planning is centralised planning. The basic tasks and proportions are set up by the whole of society in the person of the central organs of state administration. Centralism in planning shows itself similarly in the leading role of the unified state plan to which are subordinated the development plans of separate enterprises, sectors and union republics. Centralism in planning has nothing in common with bureaucracy because it is combined with true democracy.

The renunciation of centralised planned management of the economy would mean the voluntary renunciation of the advantages of a planned socialist economy. It is precisely the centralised, planned control of the economy which allows socialist countries to concentrate material, labour and financial resources on the decisive

areas of economic development and in a historically short time to gain high economic indicators.

In capitalist and the majority of developing countries planning is only advisory, not obligatory. In the best instance it may encourage entrepreneurs to reckon with the government's interest in the development of particular branches or sectors of the economy.

Under socialism democracy is safeguarded by the whole content and procedure of planning. The preparation of plans takes place in a process of consistent action "from above downwards", from the central organs of administration to enterprises, and "from below upwards", from enterprises and associations to the central state planning organs. Such a planning procedure creates the most favourable conditions for taking into account the proposals of individual workers, work collectives, union republics, regions and districts.

In capitalist conditions planning is called democratic only because it does not have a mandatory character. The employer may or may not participate in the implementation of the plan. In fact he is free of any obligation to fulfil the plan. Enterprises and more so the workers in the enterprises, take no part in working out national plans or programmes. In reality it is evidence not of democracy in planning, but is an example of the usurpation of the function of management by state-monopoly capitalism, and of the anarchy of capitalist production.

The principle of democratic centralism is closely bound up with *the mandatory and specific principle* of socialist planning. In socialist countries plans for the economic and social development of the country, after confirmation by the supreme legislative organ, take on the force of law of the country. The mandatory character means the obligation of fulfilling the plan for all state and economic organs of the country. Specificity in planning is shown by the fact that indicators and targets of the plan are addressed to specific executors. Mandatory tasks are passed on by the central organs of government to the relevant ministries and union republics, which in their turn take them to specific executors, enterprises and associations. In this way centralised control of social production is effected.

The mandatory aspect of planning is based on the social ownership of the means of production. One of the most effective instruments of mandatory planning is the centralised, planned distribution and utilisation of capital investments. The state concentrates in its hands the accumulation fund and distributes it from the centre between sectors and economic regions, in accordance with the social and economic tasks for the plan period, to carry out structural changes in the economy.

The combination of the sectoral and regional aspects of the plan similarly represents a principle of planning, that is, the state plan is worked out territorially (according to union republics and economic regions) and sectorally. The development and intensification of the social division of labour leads to the formation of new sectors and the intensification of inter-sectoral connections. Simultaneously there is development of territorial division of labour, which finds expression in specialisation and complexity of development of the economy of a given economic region, the development of inter-regional exchange, and changes in transport links. In this way territorial and sectoral division of labour function as two forms of a single process of social division of labour. This determines the necessity for the combining of territorial and sectoral planning.

This combination is expressed in the fact that, firstly, all basic indicators of the plan of economic and social development of the USSR are worked out for sectors and territories, secondly, territorial and sectoral organs of management take a direct part in the working out and implementation of all the comprehensive economic programmes.

Sectoral planning concentrates its attention on the key development problems of the given sector of the economy, stipulates the following through of a single technical policy within the bounds of the sector and strives to ensure the maximum satisfaction of public demand for the products of that sector.

Territorial planning leads to the over-all development of the economy of union republics and economic regions, based on their maximum possible contribution to the solving of all-Union problems. With this aim in view sectoral plans are also drawn up in territorial

terms and separate territorial plans are worked out, too. Territorial planning co-ordinates, unites and ties up plans for the allocation of productive forces, sectors and districts, and plans for specialisation and over-all development of the economy of the region. For developing countries, the regional aspect of planning has a particularly important significance, but in practice has not, as yet, had any considerable development.

The co-ordination of long-term and annual plans is also one of the principles of planning under socialism. This means that in socialist countries co-ordinated long-term and annual plans of differing duration are worked out. Long-term plans play a leading role in the system of economic planning. The basic form of state economic planning in the USSR is the five-year plan. Solutions to important tasks of social and economic development of society are provided for in long- and medium-term plans. As a rule, long-term plans contain a comparatively small number of indicators. The tasks of long-term plans are specified and defined more precisely in five-year and annual plans. The combination of long-term and annual planning ensures the continuity of planning and planned targets. It permits both long-term and current interests and possibilities of the economy to be taken into consideration in plans.

In developing countries likewise, the necessity for the co-ordination of annual and long-term development programmes, which is one of the conditions of fulfilment of plans, is of paramount importance.

An important principle of socialist planning is *the ensuring of dynamic and proportional development on the basis of determination of the main sections of the plan*. Proportional development does not mean that all branches of the economy should develop at the same rate. At every stage of socialist construction the main sections of the plan are determined, that is, those sectors and branches of the economy which have a decisive influence on the whole economy. For example, in the USSR at the present time the branches concerned with the fuel-energy complex are considered to be among the leading sectors. Determination of the key sectors enables the state to concentrate the available material, labour and financial resources on the decisive sections

of the economic structure and ensure by this the proportional development of the whole economy.

2. Procedure of socialist planning

Procedure of planning includes the ways and means utilised by planning organs when working out plans for the development of the economy. The history of planning in the USSR provides rich material for demonstrating the logic of the process of economic planning and its procedure, corresponding to different social conditions and stages of planning. Analytical, balance, normative, programme-oriented methods, and economic-mathematical methods have the most important significance in the procedure of planning. The balance method plays a particularly important role.

The analytical method. The analytical method is a combination of analysis and synthesis. Its essence consists of the fact that planned economic phenomena and processes may be broken down into their component parts and the interdependence of these parts established, as well as their influence on the course of development of the phenomenon being studied. The application of this method can be shown on the example of planning the growth of the productivity of labour. At the base of the growth of the productivity of labour lie numerous factors: natural factors, scientific and technical progress, improvement in the organisation of labour, etc. The essence of the method is the separation of individual factors and deciding the degree of influence each of them has on the growth of productivity of labour.

The analytical method is used to determine the initial level of development of the economy, to expose problems arising, to work out long-term and annual plans, and also for checking their fulfilment. The analytical method combines qualitative and quantitative analysis. The leading role belongs to qualitative analysis; with its help it is possible to define the essence of the economic phenomenon being investigated, the laws and basic factors of its development.

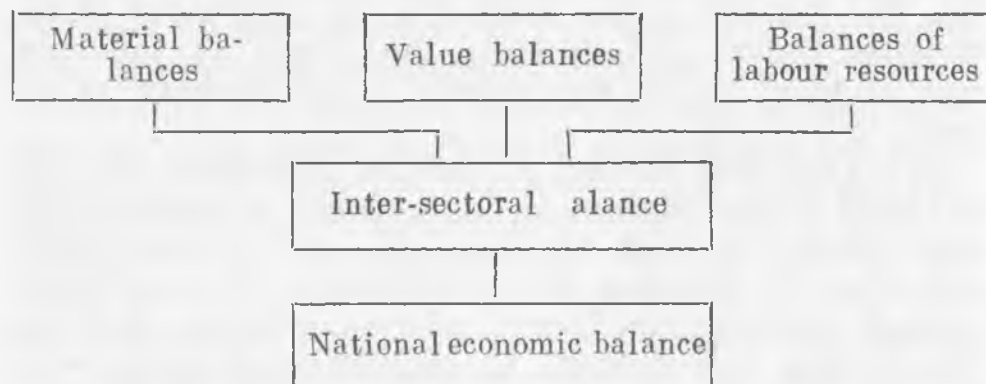
The balance method. The balance method is the basic method of socialist planning. With the help of the balance method mutual co-ordination of the plans for the development of separate branches of the economy and economic regions, the solution of problems in the field of capital construction, the development of science and technology, are all assured, and material and value proportions are established. This method serves for the planned determination of demand and utilisation of material, financial and labour resources, in the training of cadres of specialists and their assignment to different economic sectors.

Any balance signifies the equality of two parts; every balance reflects, on the one hand, the demands of the economy in resources and, on the other, sources of satisfaction of these demands.

A system of balances is a time-tested instrument for planning inter-sectoral and inter-regional ratios. Balances are widely used at all stages of preparation of plans and for control over the progress of the fulfilment of the planned targets. The use of the balance method in planning ensures the working out of a co-ordinated state plan, balanced in all indicators.

A system of plan balances includes material (natural), value (monetary) and labour balances, and balances of inter-sectoral connections and a balance of the national economy. Plan balances are indicators used in calculating and establishing planned targets.

A system and forms of balances



Material balances are used to ensure a balance over the plan period between demands and resources in spe-

cific forms of produce. In the USSR, at the level of Gosplan and the ministries, tens of thousands of material balances are worked out. Economic planning works out balances of ferrous and non-ferrous metals, agricultural raw materials, foodstuffs, consumer goods and productive capacity. These balances are called material (natural) because they are worked out for separate kinds of produce or groups of interchangeable products, and are calculated in natural terms (tons, metres, cubic metres, etc.). In recent years some material balances have been worked out in value expressions as well, with the aim of securing a fuller co-ordination of production plans with financial and commodity circulation plans.

Material balances are set up for the country as a whole, and for economic regions. In the balances for the country as a whole the volume of resources must be equal to the volume of demand, but in regional balances the volume of resources and demands need not necessarily coincide. In plans of regional balances in the USSR there are special clauses on the domestic import and export of goods; therefore material balances also serve for planning inter-regional links.

In material balances set up for the country as a whole, equality in the volume of resources with the volume of demand is not attained immediately, but as the result of repeated amendments and the co-ordination of balances of interchangeable goods, of a careful analysis of both sides of the balance—resources and demand. In the course of this analysis additional possibilities are sought for the increase of resources by way of growth in production and a reduction in demand through the elimination of losses, and a more efficient use of the available resources. The technical and economic bases of demands in different branches of the economy are very carefully analysed, and possibilities are explored for reducing the demand for the given material by way of a reduction in the rate of its consumption per unit of the finished product. (See *Diagram* on p. 56)

Value balances are composite synthetic balances used for planning inter-sectoral and inter-regional ratios between production and consumption, between consumption and accumulation, and establishing the correla-

Diagram of a material balance

Designation of the product and unit of measurement		
	Accounting period	Plan period - total and year by year
I. Resources		
1. Stocks at beginning of period (in the hands of suppliers and users)		
2. Production total according to sectors of the economy		
3. Import		
4. Other resources		
Total resources		
II. Demand (distribution of resources)		
1. Production and running requirements		
2. Capital construction		
3. Market commodity stocks		
4. Contribution to state reserve		
5. Export		
6. Other demands		
7. Stocks at end of period (in the hands of suppliers and users)		
Total demand		

tion between income and expenditure of the population, between the general wages fund in the economy and the volume of retail circulation of goods. Value balances allow co-ordination between production, distribution and utilisation of the revenues and expenditures of the state, and of separate branches and enterprises. One of the most important value balances is the state budget of the USSR, the fundamental financial plan of the state, characterising the volume and structure of the centralised monetary income and expenditure of the state.

In economic planning wide use is made of the following value balances: balances of income and expenditure

according to branches, ministries and enterprises, the balance of monetary income and expenditure of the population, balance of the aggregate social product, balance of the national income, balance of capital investment, balance of the fixed productive assets and a series of others.

One of the value balances is the balance of monetary incomes and expenditure of the population, which is used to determine the level of effective demand of the population and the volume of goods in circulation in the country. This balance is the most important means for planning proportions between the volume of goods in retail circulation, that is, goods sold to the population, and the wages fund of workers and employees and incomes of collective farmers. The practical implementation of the indicators of this balance serves as the basis for stable money circulation. The balance of monetary incomes and expenditures of the population is a component of the balance of the national economy.

In the system of labour balances we include: the composite balance of labour (balance of labour resources), balances of skilled cadres of workers and of specialists with higher education, the balance of manpower by branches of the economy, etc. The balance of labour resources is basic for the working out of all other balances. All labour resources and their distribution by branches are reflected in this balance, which is worked out both for the country as a whole and for separate regions.

With the help of the balance of labour resources and other labour balances, which take into account manpower resources and the demand for them, a planned distribution of labour resources to the most important branches of the economy is implemented, plans are worked out for the training of cadres and a redistribution of labour takes place between branches of the economy and economic regions. (See *Scheme* on p. 58)

The national economic balance is a generalisation of the whole system of material, value and labour balances and is a system of aggregated economic indicators characterising the level of development of the economy, the process of expanded reproduction and basic economic ratios.

A model scheme of the balance of labour resources

	Plan period		
	including		
	Total	City	Village
I. Labour resources including: population of working age working pensioners and adolescents.			
II. Distribution of labour resources:			
1) by type of employment occupied in the social economy students and pupils over 16 years of age occupied in the home and in personal subsidiary work			
2) by branches of the economy			
3) by social groups: shop-floor and office workers collective farmers craftsmen and peasants not in co-oper- atives			

The national economic balance is used at all stages of economic planning. With its help the scale, tempo and most important proportions of social production are planned. It includes five groups of balance tables:

1. Composite table of the balance of the national economy;

2. Balance of national wealth;

3. Balance of the social product;

Here we also include material balances and balances of inter-sectoral links and the balance of income and expenditure of the population, which make the balance of the social product more specific.

4. Balance of national income;

5. Aggregate balance of labour.

The balance of inter-sectoral links (the inter-sectoral balance) plays an exceptionally important role in economic planning, being a component of the national economic balance.

In the planning process the inter-sectoral balance ensures the co-ordination of economic proportions with the proportions of development of separate sectors and the production of the most important types of produce.

With its help the tempo and proportions of development of separate branches of the economy are co-ordinated with plans for the utilisation of labour resources and capital investment.

The formulation of an inter-sectoral balance is based on the separation of the social product into intermediate and final. The intermediate product is intended for productive use, the final product goes to production and non-production accumulation (capital investments), personal and social consumption, and replacement of used-up fixed assets.

The inter-sectoral balance is a chequered table, showing along the horizontal the distribution of the produce of the sectors to production consumption, accumulation, consumption by the population (personal and social), export and so on; the size and composition of expenses, and elements of the national income created by the sector are set out along the verticals.

In the USSR the following inter-sectoral balances are worked out:

- a) inter-sectoral balance in natural expression;
- b) inter-sectoral balance in value expressions;
- c) inter-sectoral balance in natural-value expressions.

In the table below x is the production volume of one sector necessary for the production of another sector. For example, x_{12} shows the amount of ferrous metal output consumed in the production of electric power. X is the volume of production of one sector, for example, X_2 signifies the total volume of production of electrical power. Y is the magnitude of the final product of the given sector.

Two forms of model of inter-sectoral balance are used when working out a plan, the static and the dynamic. When using the static model the co-efficients (norms) of direct expenditure are first determined, then the volume and structure of the final product, and after that the interconnected volumes of production are found. The dynamic model is based on the prior working out of the indicators for one part of the final product—non-production consumption and the volume of exports and imports. After this the volume of production in all sectors is determined together with the required capital investment. Dynamic models permit

*A scheme of the inter-sectoral balance of production and distribution of produce
in value expressions (conventional figures)*

User sectors	Gross social product											
	Intermediate product						Final product					
	Ferrous met- allurgy	Electric power	Mechanical engineering	.....	.....	Total mate- rial expen- diture	Consumption fund	Capital in- vestment & major re- pairs	Circulating assets & re- serve stocks	Export (+)	Import (-)	Total final product
Producer sectors	4000	1st quadrant 100	6000	.....	.....	42000	500	—	300	2nd quadrant 500	200	4100
	500	50	4300	.....	.....	6000	2700	.....	.....	.....	.....	2500
	100	70	40000	.....	.....	45000	6000	20000	2000	300	700	27600

Total material ex- penditure	7100	3700	25500	.....	.....	153000	87000	60000	5000	7000	12000	147000
Amortisation of fixed productive assets Pure output Gross output	4000	3rd quadrant 4500	3000	.....	.....	27000	—	—27000	—	4th quadrant	—	—27000
	5000	3500	48400	.....	.....	420000	—87000	—33000	—5000	—7000	42000	—420000
	43400	8700	42600	.....	.....	300000	—	—	—	—	—	—
												300000

*Simplified diagram of an inter-sectoral balance
in value expressions, in an algebraic form*

User sectors		Intermediate product				Final product					
		1	2		n	Replacement of used -up fixed assets	National income		Export—Import	Total	Total
		Ferrous metallurgy	Output of electric power				Consumption fund	Accum. fund			
Supplier sectors											
Current material expenditure	1.	Ferrous metallurgy Electric power	x_{11}	x_{12}	x_{1n}				Y_1	X_1	
	2.		x_{21}	x_{22}	x_{2n}				Y_2	X_2	
	n.		x_{n1}	x_{n2}	x_{nn}				Y_n	X_n	
			1st Quadrant				2nd Quadrant				
Amortisation											
National income produced	Workers' incomes	3rd Quadrant									
	Net income of enterprise Centralised state revenue										
Total											
Sum total			X_1	X_2	...	X_n					

the distribution of capital investment over the sectors to be planned.

The normative method of planning is based on the use of norms which express the degree of efficiency of production, and technically-based norms of the expenditure of labour and material and financial resources.

The working out of all economic plans is based on norms. A system of standards and norms embraces all aspects of production, distribution and consumption of

the product. With the help of norms the plan requirements of the economy for material, labour and financial resources are determined, and the volume of production and material and technical supply. The most important norms and normatives have a mandatory character. In the five-year plans of ministries and enterprises in the USSR targets are set for the reduction of the norms of expenditure of raw and other materials. The normative method is also used for working out all forms of balances.

Three basic groups of norms can be distinguished: norms of expenditure of labour, of the outlay of material resources, and of the utilisation of equipment. Norms are not unchangeable. They change under the influence of scientific and technological progress. Thus, in 1928 the production of one kilowatt-hour of electricity in the USSR used up 150 per cent more fuel than is needed today. In order to work out a plan for an enterprise it is essential to utilise progressive norms. Progressive norms are those which most fully reflect the present level of development of techniques, technology, the organisation of production and labour, and in which the experience of advanced production methods is taken into account. The use of obsolete norms leads to over-consumption of material resources and the receipt by the economy of a smaller part of production than is due to it.

Let us examine one small example. In some generating stations 328 grammes of fuel are required to produce one kwh of electric power, whilst in others 330 grammes and more are needed. The difference is only 2 grammes so is it worthwhile talking about? Considering that 1 gramme of ideal fuel has a heat value of 7,000 calories it turns out to be worth it. After all, 2 grammes multiplied by the thousands of millions of kwh of electric power produced in the country amounts to millions of tonnes of fuel.

The 26th Congress of the CPSU set the following target: to save the national economy fuel and energy resources to the tune of 160-170 million tonnes of ideal fuel, including 70-80 million tonnes through a lower rate of fuel consumption, in 1985 compared with 1980; to reduce the average rate of consumption of rolled fer-

rous metals by not less than 18-20 per cent, of steel tubing by 10-12 per cent, timber by 7-9 per cent and cement by 5-7 per cent.

Some norms are set up for enterprises by the ministries but the greater part of the norms are worked out in the enterprise or entrusted to scientific research and design institutes for them to work out. The most important norms are confirmed by higher organs, and the rest by the chief engineer of the enterprise.

There are several methods of determining norms: statistical, estimated-analytical and others. Statistical norms are set up on the basis of current data of the actual expenditure of labour, and consumption of material resources in the process of production over the past period. For example, the manufacture of one item in the base year required 12 minutes working time, which becomes the standard for the expenditure of labour for the plan period.

When determining norms by the statistical method no critical analysis of working conditions is made, and the development of technology is not taken into account. Statistical norms only record existing labour expenditures and consumption of material resources; they do not stimulate the drive for economy, or for the elimination of unplanned stoppages of machines. They are, as a rule, set too low.

It is expedient, wherever possible, to establish norms by the estimated-analytical method. Technical-analytical norms are scientifically based. First of all a technical chart of the given process is drawn up, in which the technological and labour operations are separated into their component parts and which contains data on the technological conditions for carrying out the work. When working out output quotas the time required for each operation is laid down, and then the general output quota. The technically based norms for the consumption of raw and manufactured materials are determined in exactly the same way. These norms are technically based, but also take in the economic, physiological, psychological and sociological points of view. Technically based norms permit a more rational utilisation of material outlays and of equipment, and increase the productivity of labour.

The perfection of norms and normatives is an essential condition for the organisation of planning on the basis of economic and engineering estimates. The working out of norms is not a matter for a limited number of specialists, the workers themselves take a most active part in their preparation and periodical revision.

The programme-oriented method is the application of a systems approach to planning. The essence of this method consists of the determination of the basic aims of social, economic, scientific and technical development, the preparation of interconnected measures for their attainment with the effective development of social production. Under the influence of scientific and technical progress the character of production is consistently changing, in particular, specialised production has been accelerated and new branches of production have appeared. All ties and interactions in the economy have become more complicated, the process of concentration of production continues, manifesting itself in socialist countries in the preparation and implementation of large-scale specific programmes. Rates of renewal of output have been considerably accelerated and production technology is becoming more complicated. In present-day conditions the isolated solution of any large-scale socio-economic problem is impossible. The solution of any particular problem is impossible without the simultaneous solution of smaller problems bound up with it.

The considerable complexity of modern production leads to an increase in the amount of information essential for decision-taking, to the great complexity of the whole planning process. In the USSR the preparation of just one variant of the annual national economic plan requires 83,000 million calculations and processing of 7 million documents with 47 million indicators.

The answer of economic science to these changes in the sphere of production and management was the preparation of a comprehensive systems approach to the management of the economy, affording the possibility of taking into account all the most vital links and interactions in management, of singling out the main targets and subsidiary tasks, of directing the management mechanism towards the achievement of the set tasks.

This method ensures the unity of the state plan, the

close co-ordination of the aims of development with the resources essential for their attainment, and the choice of the most effective ways of fulfilling socio-economic programmes. It allows the main aim to be broken down into smaller targets and presents them in the system of indicators of the plan. The programme-oriented method does not replace other methods of planning, but is utilised in conjunction with them; moreover it cannot be applied in isolation from the balance, normative and other methods. This method is utilised in the preparation of specific comprehensive programmes of great economic significance. A comprehensive economic programme is an aggregate of interconnected tasks and measures of a social, economic and scientific character, united by a single aim and timed for a single period (time required for completion). The programme provides for specific measures and executors, ensuring the implementation of the stated aims, and also for resources and completion dates for the set tasks. Programmes are, as a rule, prepared at the inter-sectoral level.

The use of the programme-oriented method allows the sectoral and territorial sections of the plan to be supplemented by programmes. Before preparing the five-year plan Gosplan, by agreement with the ministries or union republics concerned, confirms the list of most important programmes and the order of their preparation. These programmes become a component of the five-year plans and are co-ordinated with the corresponding indicators and sections of the plan, with the material, labour and financial resources. In the USSR plans for the saving of fuel and metals, for reducing the use of manual labour, for the development of the Baikal-Amur Mainline (BAM), and for increasing the supply of consumer goods have been set as top-priority programmes for the near future.

Programme-oriented planning is becoming a powerful lever for the development of science and technology, and the introduction of their achievements into the national economy. The documents of the 26th Congress of the CPSU stressed the necessity to work out and put into practice a comprehensive programme of scientific and technical progress, and specific programmes for solving the most important scientific and technical problems.

The USSR State Committee for Science and Technology, USSR Gosplan and the USSR Academy of Sciences prepared 160 comprehensive programmes, including 36 specific ones, for the eleventh five-year plan. The programmes embrace practically all the basic sectors of the national economy, and provide for the creation of up-to-date equipment, machinery, instruments, new materials and technology, and the development of productive capacity.

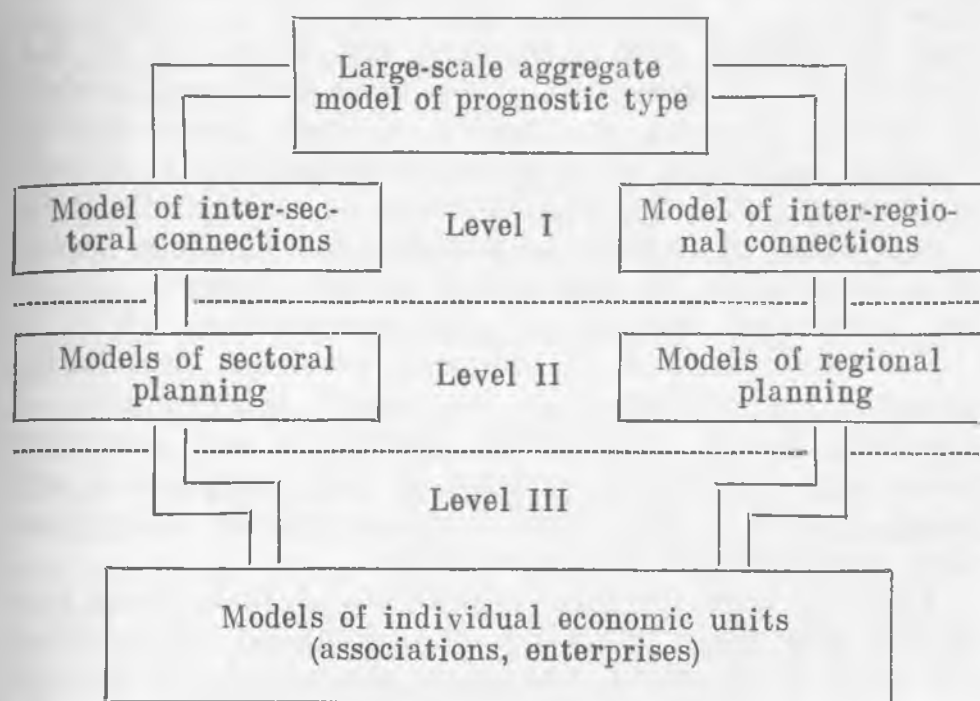
The programmes include measures for making considerable saving of fuel, energy, raw and other materials. One of the engineering programmes provides for the creation and widespread use of robots in the national economy. These will be used in work under harmful, arduous and monotonous working conditions. It is planned to set up, on a robot base, flow-lines, sections and a number of fully automated lines of production.

Economico-mathematical methods of planning economic development are methods which have sprung up and developed with the first application of computers in the economy.

Intensification of the planning process dictates the necessity of using economico-mathematical methods and modern computers. Further improvement of the economic plan is impossible without the use of economico-mathematical methods.

The use of economico-mathematical methods is based on the modelling of economic processes. A model is a mathematical description of the processes or objects being investigated, and a system of economico-mathematical models includes models on three levels. The first level is represented by national economic models, among which the leading role belongs to the inter-sectoral balance. With the help of these models the basic macro-economic indicators of the plan, the basic characteristics of the plan, are determined. Sectoral and regional planning models belong to the second level, and the third level is represented by individual models, employed in planning at the level of the enterprise. Models on all three levels are united into a system. The systematic character of models is displayed in their interconnections.

Diagram of the interconnections of economico-mathematical models



In the diagram the levels of planning are separated by a dotted line, and straight lines show the flow of information.

With the help of economico-mathematical methods the methodology of planning is perfected, enriched by the complex mathematical tools. For example, the intersectoral balance is the result of development of the balance method of planning, which is based on very complicated mathematical calculations. The use of economico-mathematical models in planning allows numerous variants of a plan to be worked out, is essential in preparing a system of plans, and is used in the search for the best, i.e., optimal plan for the development of the country's economy.

Optimal planning is a system of methods of basing the best, from the point of view of the chosen criterion, plan for developing the economy as a whole and its separate sections—sectors, regions and enterprises, or in simpler terms, an optimal plan ensures the attainment of the set targets with least expenditure of resources and labour.

Optimal planning is based on a system of economico-mathematical models which set out the special function or criterion of optimality, with the aid of which the best, or optimal, plan is selected, and limits set to the consumption of resources. The most developed models of optimal planning are models of linear programming. Further perfecting of economico-mathematical models is bound up with the establishment of reliable statistics.

A system of economico-mathematical models serves as a foundation for automated control systems (ACS) and automated systems of plan computation (ASPC).

The intensification of planning processes insistently demands the utilisation of the latest achievements of economic theory, cybernetics, electronics and computer technology. Automated systems of plan computation are being created in the USSR Gosplan and the state planning committees of union republics.

ASPC is used for the computation of state plans and control over their fulfilment. It is intended for carrying out, in a short period, numerous alternative calculations for draft plans of economic and social development. In the USSR an automated system of plan computation has already become an organic part of the system of economic planning, and with its help unity of elaboration of planning processes and control over their fulfilment is achieved.

The setting up of the first-line ASPC in the USSR Gosplan and the state planning committees of union republics has already been completed, more than 3,000 economic planning problems are processed with the aid of computers when working out national economic plans. ASPC ensures the improvement of the scientific foundation and balanced nature of plans, an improvement in working conditions and growth of productivity of labour of planners. A second-line ASPC is being set up in the USSR at the present time.

3. Scientific prognostication

Scientific prognostication is a component part of the system of planning the economy. It is a pre-planning stage of the work, representing scientific calculations and quality evaluations at the pre-planning stage of

working out prospects for economic, scientific, technical and social development. In the USSR, economic, social, technical, demographic and ecological forecasts are being worked out. Forecasts put together the sum total of scientifically based ideas about the possible or probable condition and development of various phenomena in the foreseeable future. Economic forecasting allows us to get an idea of the peculiarities of and prospects for the development of the economy or its component parts. Economic forecasts have a preliminary, variant character. They are prepared with the aid of special methods with the utilisation of special tools of quantitative analysis.

To begin with, all the information available at the given moment on the state of the economy, different economic processes, the patterns of their changes and the conditions of functioning, is systematised, generalised and analysed. Then, on the basis of this analysis, and taking into account the set targets, we get an idea of the possible peculiarities of the development of the economy or of economic processes in the future.

Forecasting is widely employed in capitalist countries also. However, the aims, principles, methods and content of forecasting in capitalist countries are different from the scientific forecasting in socialist countries.

A forecast in socialist society is a scientific preview of possible changes in the economy, in separate fields of science and technology, utilisation of resources and the development of socio-economic relations. A forecast in socialist countries is based on knowledge and utilisation of the objective laws of social and economic development. Bourgeois futurology, however, is based on subjective idealistic theories of social development. Because of the instability of a capitalist economy, the keen competition and the rule of monopolies, in the conditions of a capitalist economy forecasts may be more or less trustworthy primarily in the field of the development of technology or natural sciences. In capitalist countries most forecasts relate to the development of those aspects of production and commodity markets in which the most powerful monopolies are interested.

Forecasting is used first and foremost in the sphere of processes having little or no control over them, such

as, for example, demographic processes, external economic factors, weather conditions, the level of ascertained reserves of minerals, military and political circumstances and consumer demand. These processes, although they yield to definite planning influence, cannot be the direct objects of social planning, but they can be forecast.

In proportion to the development of socialist planning, scientific forecasting takes on an ever-growing significance, from a series of causes. The scientific and technological revolution continues to develop, bringing with it constant changes in the structure and proportions of the economy. In these conditions and without scientifically based foresight of the social and economic consequences of scientific and technical progress it is impossible to work out long-term plans for the development of the economy.

In long-term planning it is essential to direct the attention not only to the already achieved results (the base level of development in production, science and technology) but also towards possible changes in these areas in the future. All this gives rise to the need for scientific forecasting of various social and economic processes over a protracted future. Long-term planning is based on forecasts of the amount of labour resources, the needs of the population, the structure of capital investments and natural resources.

Planning and forecasting are in close unity. In socialist countries the plan and the forecast represent complementary stages in the preparation of plans for economic and social development, the state playing the leading role. For instance, if economic forecasts reveal a threatening rise in environmental pollution, then in the process of preparing long-term plans measures can be provided to counteract these negative tendencies.

At the same time planning differs from forecasting. The basic difference is that planning is a process of taking and implementing plan decisions, whilst forecasting creates the essential prerequisites for taking such decisions. The main function of forecasting is the provision of scientific bases for those tasks and measures which will afterwards be utilised for the preparation of plans.

There is also a number of other features which distinguish a plan from a forecast. Planning has a mandatory and specific character, which means that the majority of indicators of a plan concern specific executors (ministries, economic regions, enterprises etc.) and are mandatory for them. Forecasting does not have a specific character, its indicators may overlook the existing structure of management of the economy and they are not mandatory.

The system of indicators of a plan meets the requirements of government. Forecast indicators, although they take into account the tasks of management, nevertheless are, in the main, shaped by the content of processes forecast.

A forecast is always a variant, an alternative insofar as it is based on probabilities. In the process of planning, different variants of a plan are prepared, but in the final reckoning that variant is adopted which will conform to the social and economic strategy over the plan period to the maximum degree.

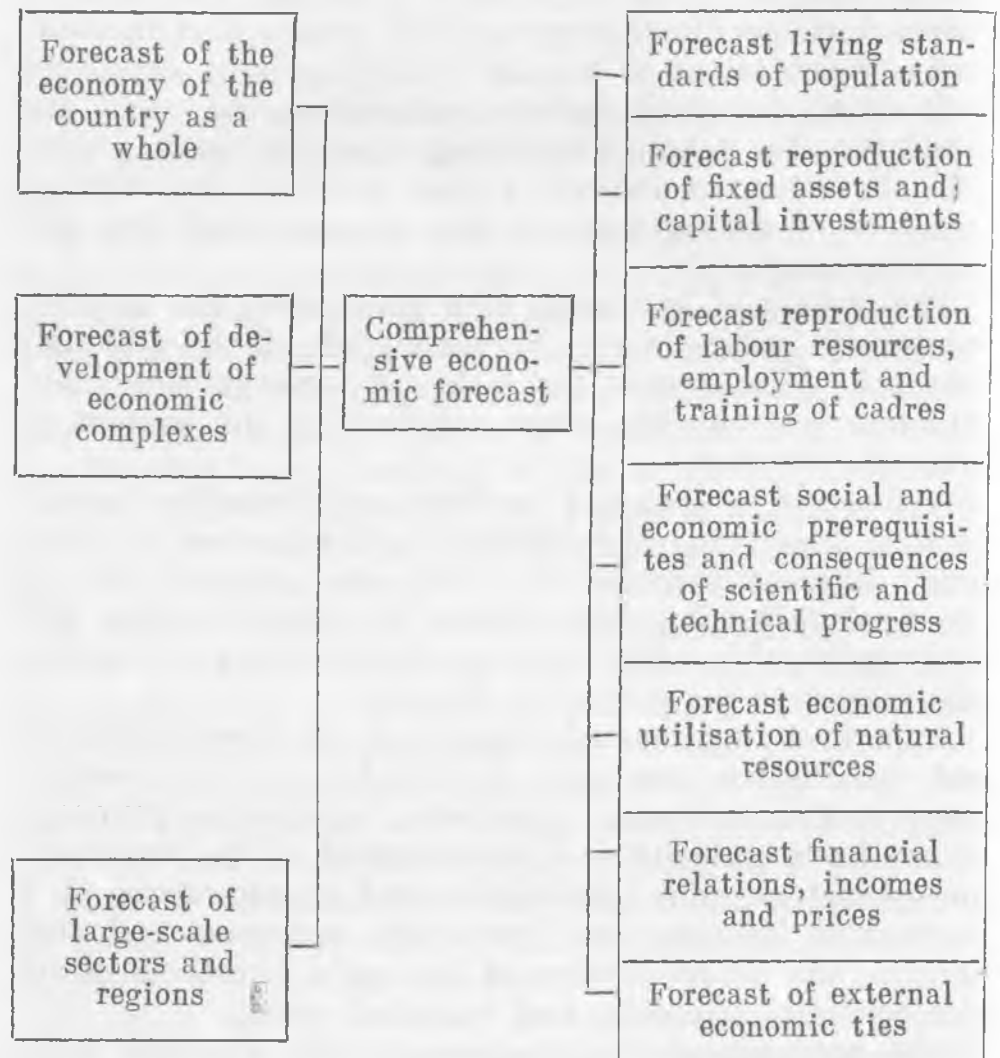
Important functions of forecasting are the quantitative and qualitative analyses of trends in the development of the economy; a probable, alternative prevision of the basic guidelines of development of the economy; an estimate of the possibilities and consequences of a purposeful influence on foreseeable processes and tendencies; the determination of the main directions of socio-economic, scientific and technical policy.

The preparation of any economic plan contains within itself elements of forecasting, because in the course of planning various hypotheses of development are examined, and several variants of the draft plan are prepared. Thus, a change in the share of accumulation in the national income leads to changes in the rate of growth of national income and of movement in the living standard of the population.

Economic forecasting has a comprehensive character, embracing all aspects and levels of development of the economy.

The structure of economic forecasts includes, on the one hand, differing levels of aggregation of the economy and, on the other, various aspects of reproduction.

The structure of economic forecasts



The first group comprises macro-economic forecasts (forecasts of national income, accumulation and consumption), structural forecasts (inter-sectoral and inter-regional proportions), forecasts of the development of economic complexes (fuel-energy, agro-industrial, production infrastructure), and forecasts of large-scale sectors and regions. To the second group belong forecasts of the standard of living and employment of the population, the expenditure of labour, basic incomes of the population, capital investments, etc. Each forecast is important in itself and all of them taken together form a comprehensive forecast of development of the economy and appear as a unity.

The process of forecasting and its sequence depend on many factors, in particular on the period of forecasting and the specific problems set. Forecasting, just like planning the economy, has an iterative character, that is, in the process of forecasting one returns time and again to the starting level and repeats all the calculations. For instance, a comprehensive economic forecast can be prepared, proceeding from social and economic tasks to a forecast of productive resources and simultaneously from a forecast of productive resources to a forecast solution of social and economic problems. A counter process of working out a comprehensive economic forecast allows the quality of the forecast indicators to be raised, and the basic sources and difficulties of development to be revealed.

There are three horizons for forecasting; short-term (up to 3 years), medium-term (5 to 7 years), and long-term (15 to 20 years). Which to choose is determined by the requirements of planning and the contents of the forecast phenomena. The more stable the forecasting processes, the more distant can be the horizon of the forecast. Long-term forecasts are also used for forecasting development and the solution of large-scale social problems, the consequences of scientific and technical progress, or the assimilation of natural resources. Medium-term forecasts are widely used for forecasting the structure of the economy, capital investments, rates of development of the economy and its various branches.

The role of short-term forecasts in socialist economy is somewhat restricted; they give a foresight of change in the demand for consumer goods, changes in the structure of effective demand of the population, and estimates of harvests.

The most important principles of forecasting are system, fitness and the principle of alternatives.

In accordance with *the principle of system* in forecasting, the national economy is considered as an integral object and as an aggregate of relatively independent parts (units) of forecasting. The practical application of the principle of system means the working out of methods and models which take into account the content and peculiarities of each individual unit and at

the same time give a picture of the probable development of the whole economy.

The principle of fitness of a forecast to objective laws presupposes a measurement of the stability of interconnections in the economy and an imitation of the real economic processes. The more complete and detailed this imitation, the more reliable the forecasts obtained.

When evaluating real processes it is essential to take into account their probability character because deviations of future tendencies in development from those displayed in the past are possible. With the widening of the horizons of forecasting the probability of possible error increases.

The principle of alternatives in forecasting means the recognition of the possibility of different variants of the development of the economy or of the processes under investigation. The practical application of this principle signifies the necessity of a thorough analysis of all variants of the forecast, and the selection of those which represent the most practicable in the existing and foreseen conditions. The determination of the practicability of different variants is an extremely complicated task. It is determined by testing how balanced they are.

In the testing of any economic forecast one of two universal approaches is utilised, the genetic and the goal-oriented.

The genetic approach stems from the presence of steady trends in the forecasting process. Any phenomenon that can be forecast has its roots in the present and the past, its origin, its genesis. Because of this the future is closely bound up with the past.

The normative goal-oriented approach reflects the guided character of forecasting processes, their dependence on the development aims of socialist society.

The choice of a specific approach is determined by the period and object of the forecast. When the forecasting horizon is distant from the present the limitation connected with resources is diminished, the possibility of considerable manoeuvring with resources appears and, consequently, the field of application of the goal-oriented approach widens. When the forecasting horizon is closer the possibility of manoeuvre with resources is significantly limited, because their use is to a great

extent determined by planning decisions already taken. In this case the sphere of application of the genetic approach widens.

If the object of forecasting is a guided process (the movement or structure of production), then the sphere of application of the goal-oriented approach widens. The genetic approach is more acceptable for forecasting relatively less manageable processes (demographic processes, external economic factors).

In socialist countries the genetic and goal-oriented approaches complement one another. The genetic approach permits a realistic evaluation of possibilities and trends in development to be made. The goal-oriented approach is used as a basis for the move from existing tendencies and proportions to the socially essential, arising from the set aims of development.

In the conditions of a capitalist economy the genetic approach in forecasting prevails.

Within the framework of the genetic approach wide use is made of various economic models. Econometric models are prepared on the basis of an analysis of statistical information relating to the previous period. Econometric forecasting models also include estimates of separate parameters relating to the future. Any econometric model presupposes the presence in the process under investigation of stable internal connections, in the development of which there is a definite logic.

Another form of implementation of the genetic approach is the employment of experts in which leading specialists and scientists give quantitative and qualitative estimates of different parameters of the forecast phenomena. Expert methods, for example, are widely utilised in forecasting scientific and technical progress. Their role is particularly great in long-term forecasts.

The essence of goal-oriented methods lies in revealing ways and specific methods of attaining the set aims. Methods of goal-oriented approach are founded on basic social and economic aims, worked out for long-term perspective. These goals are expressed in a system of quantitatively measurable social standards. An example of social standard is the provision of comfortable living accommodation for the population calculated on a per

capita basis, and the consumption of various goods per capita.

Starting from the chief social aims and standards one may build a pyramid of social needs, for example, in the form of a tree of aims.

Forecasting is also widely used in joint planning activities of member-countries of the Council for Mutual Economic Assistance (CMEA). Co-operation of member-countries in the field of forecasting includes the exchange of experience in the preparation of forecasts, the exchange of information on the results of national forecasts, and joint forecasting.

Joint forecasting by socialist countries is a form of co-ordinated pre-planning action, the results of which have an informative character. Joint forecasting allows the most effective variants of the international division of labour to be selected in the early stages of joint planning action. Forecasts for various problems of science and technology are worked out in various organs of the CMEA.

In developing countries forecasts of social and economic development are quite frequently described as "plans for the development of the national economy". In actual fact, quantitative and qualitative evaluations of such plans are supplemented, in the main, by a programme of capital investments. This leads to complications in the implementation of such programmes of capital investment, insofar as no other indicators of planning forecasts have a mandatory character.

Chapter IV

ECONOMIC FOUNDATION OF THE BASIC PARAMETERS OF A PLAN

A unified economic plan is a scientifically based task for economic and social development, a directive to action.

In any economic plan the basic aims (tasks) of development must be precisely formulated. Under socialism economic planning is directed to the achievement of the basic aim of social production, the ensuring of a rise in the well-being and the all-round development of every member of society. The quantitative expression of the task is established and depends on diverse factors such as the attained level of economic development, the social orientation, available resources, efficiency of production and the long-term prospects of development. All other tasks of economic and social development stipulated in the plan are subordinate to the solution of the basic task.

Planning is a multi-stage process which includes: the pre-planning stage, i.e., an analysis of the initial level of development, and forecasting; the stage of actual preparation of the plan; the most complicated stage, which is organising the fulfilment of the plan. The creation of a unified system of interconnected plans (a comprehensive programme of scientific and technical progress, long-term, five-year and annual plans) allows the improvement of the foundation and the refining of the balancing processes of the basic parameters, that is, of the indicators, the targets of the plan.

The multi-stage planning process begins with an analysis of the initial level of development, of the rate of

growth and existing proportions of social production over previous years, the revelation of existing problems, the defining of incongruities which arise and of reserves of growth in the economy. The existing tendencies of social and economic development and of scientific and technical progress, which took shape during the pre-planning stage and have an important significance for the planning period, are also analysed. Analysis of the initial level is combined with scientific forecasting for the plan period of the numbers employed in social production, ascertained natural resources, the needs of the population and the structure of capital investments.

The beginning of the second stage of work on setting up a plan consists of a qualitative and quantitative definition of the basic parameters (limits) of the plan. Such parameters are: a description (estimate) of social needs, an estimate of production and natural resources, labour resources, fixed productive and non-productive assets, the establishment of criteria of efficiency and an estimate of the effectiveness of planning decisions. Subsequent elements of this second stage are analysed in succeeding chapters, the titles of which also describe the content of certain kinds of work on the preparation of a plan.

It should be specially noted that at the centre of attention at all stages of planning there are the following problems: a) definition of social needs to the satisfaction of which economic development should be directed; b) estimates of resources which may be utilised for the satisfaction of these needs; c) choice of methods and practical co-ordination of resources and needs, estimates of the effectiveness of the planning decisions taken.

1. Social needs—
the starting point
of economic planning

In conditions of social ownership, when production develops under the control of the whole society, the dependence of production on social needs, on the tasks and aims of the workers' society as a whole, appears immediately. The means of production and natural re-

sources belong to the workers, to the whole of society and society directs the development of production in conformity with its own needs.

In socialist countries the economic plan is an essential instrument for subordinating all production and each of its elements to the satisfaction of social needs. The control of production in conformity with social needs is the most important function of economic planning. The working out of an economic plan is called upon to ensure the satisfaction of social needs in the most effective way, with least possible consumption of resources: material, labour and financial.

The degree of satisfaction of social needs attainable as a result of planned economic development is the most important criterion of the progressiveness of the chosen path of economic development, and of the effectiveness of the planning decisions that were made. *The degree of satisfaction of social needs* is also one of the most important indicators of the level of economic development. In this sense, absolute production figures, and even indicators of production per head of the population, still do not completely describe the results of economic development. An important sign of economic maturity in a country is shown also in the flexibility of production, enabling it to change in response to changes in social needs, and to satisfy those needs more fully.

Determination of the level of satisfaction of social needs is also essential for an appraisal of the proportions and balance of the economy. That production is proportional and balanced when its volume and structure correspond to the maximum extent to the volume and structure of social needs.

The concept of social needs. The volume and composition of social needs depend on the concrete conditions of development of socialist society at each given stage. Social needs are not constant, they change under the influence of numerous factors and this must be taken into account in planning.

Social needs can be subdivided into *productive*, i.e. the needs of production itself, and *non-productive*, that is, personal and social needs of the population. Productive and non-productive consumption differ accordingly.

Productive consumption is, for example, the consumption of metal in a mechanical engineering enterprise for the manufacture of machine-tools, electrical machines, tools and other items. Non-productive consumption is consumption by the population and by institutions not producing any material product and by state institutions. In the composition of social needs so-called ultimate needs or the needs of ultimate social consumption are singled out.

To ultimate needs are assigned first of all the needs of the population for material benefits, food, clothing, living accommodation, and services providing personal consumption. Here, too, are assigned the needs to receive general and professional education, to satisfy the very wide cultural needs of modern man, to ensure the health and essential physical development of every member of society.

Society is a constantly developing organism and the needs of its members similarly change and grow systematically; therefore the aims of the development of social production cannot be limited by the tasks of satisfying only the everyday, current needs of society. It is essential to ensure the more and more complete satisfaction of needs in the future, both near and more distant, that is, to ensure the further development of production beyond the bounds of the given current needs. In other words, the need for the means of production enters into the needs of society as a unified whole, both to maintain the level of production already achieved and for its further development.

Thus, ultimate social needs (correspondingly, ultimate consumption also) are characterised by the necessity for society to have material means for personal consumption by the population and the maintenance of the non-productive spheres of society, for the replacement of the used-up part of the means of production which had been accumulated for the given period as a result of the production of previous years, and for the accumulation of means of production for future production periods.

The composition and changes of social needs are determined first of all by the structure and changes of production itself. A popular demand for one or other end

product arises, as a rule, when it goes into production. Until television had been invented and was being produced, the consumer showed no demand for it. Thus the development of production creates a material basis of change in social needs.

At the same time their real composition depends on a great number of technical, economic and social phenomena, and similarly on natural and demographic factors.

So, for example, a very complicated combination of factors determines the needs and the effective demand of the population. Therefore the study of changes in the volume and composition of popular demand presupposes the study of each of these factors and their interaction.

The needs of the population depend primarily on its dynamic, but also on variations in its sex and age structures. A rise or fall in separate age-groups of the population, whose consumption and servicing have a specific character, is reflected also in the general structure of needs. For example, a rise in the proportion of children in the composition of the population brings about an increase in the need for activity in the sphere of services, in particular of children's establishments, and a widening of the network of medical institutions for children and of schools for general education.

A change in incomes and the level of prices for consumer goods and services shows in the structure of popular demand. Very stable laws of conformity come into play here: with growth of incomes to a certain level goes an increase in consumption of food products, a rise in the quality of nutrition and in conjunction with this a rise in average prices of available produce. Gradually the volume and proportion of consumption of non-food-stuffs rises, then of every kind of service, and the need for better living conditions grows.

However, knowledge of the main directions of change in consumption with growth of per capita incomes is not sufficient for determining specific planned targets, and more detailed research and plan estimates are essential.

A vital factor of change in the needs of the population is changes in the level of education, in the pro-

fessional composition of those engaged in the economy, in the character of the work itself, for the needs of different groups of the population are not identical. In fact, the nutritional needs of a worker in mechanised industry and one in heavy manual labour are different. To determine the needs of the populations in countries with appreciable climatic differences within their territory, the study of population shifts is important. Certain national peculiarities in consumption, and established traditions among different groups of the population must also be taken into account.

The study of change in the volume and structure of needs and the effective demand of the population demands systematic work and the application of various methods and forms of research organisation.

Some basic forms of study of the needs and effective demand of the population have taken shape in the USSR. Thus, systematic investigations of family budgets are carried on, which reflect all forms of receipt of incomes and basic areas of family expenditures, including expenditures on basic forms of goods and services. The budgets of more than 50,000 families are examined regularly. Among them are families grouped by social status and professional composition, and according to income level. They are families of factory and office workers of different occupations, of peasants etc. Therefore, on the basis of an analysis of systematic observations of the budgets of these families a conclusion about change in the structure of their demand can be drawn.

Another source of information for studying shifts in the needs of the population and foreseeing their future is the systematic working out by planning and finance organs of balances of incomes and expenditures of the population.

On the basis of data about the structure of consumption according to groups with different incomes economic-mathematical models of population demand are constructed. On the basis of data on the proposed growth of incomes a forecast of change in the distribution of population, grouped according to incomes, and a forecast of change in the structure of demand consequent on the movement of the population from one such group to another are made.

Sociological researches into the needs of the population and its separate groups have great significance. They are particularly important in the explanation of questions for which information from the normal data on incomes and expenditure cannot be obtained. For example, these concern questions as to which is preferable for the workers, an increase in wages or an increase in free time, the extension of full-time or part-time education, an increase of expenditure on the provision of creches or an increase in expenditure that would allow working women to bring up children at home to the age of one, and so on.

To determine the directions of change in popular demand, the study of trends in technical progress in sectors producing consumer goods is very important. The appearance of goods which are essentially new or a material change in the quality of traditional products unavoidably give rise to changes in the structure of demand. These changes cannot be foreseen on the basis simply of statistical data on past and present consumption.

To analyse and foresee changes in consumption the normative approach is also used. Its essence lies in the fact that on the basis of modern medico-biological research, which takes into account a number of social and economic factors (occupational composition of the population, the character and intensity of work, etc.) the most rational data on the volume and structure of per capita consumption are determined. The essential volume of nourishment in calories and its composition from basic forms of produce, basic forms of nourishing substances and elements are similarly determined. On this basis recommendations are worked out according to rational norms of consumption, differentiated by sex, age, basic climatic zones of the country, and according to basic types of activity (mental work, mechanised physical labour, primarily manual labour and so on).

The working out of such rational norms permits the evaluation of the existing structure of consumption from the point of view of the requirements of medical science and the working out of measures to stimulate the structure of consumption in answer to the requirements of science.

For determining the composition of production needs of society the decisive factor is the development of science and technology and the perfecting of technology. Changes in the composition and quality of the instruments of labour, the utilisation of sources of energy, new kinds of raw and manufactured materials involved in production, and also the volume of their expenditure on the unit of finished product, all depend fundamentally on scientific and technical progress.

The determination of the requirements of productive consumption is carried out chiefly with the aid of norms. On the basis of a statistical analysis and using engineering-based methods, which take into consideration the state of engineering and technology in future, norms of production expenditure are worked out. These include norms of capital expenditure on one unit of increase in capacity, or volume of production, and consumption of fuel, raw and manufactured materials for one unit of finished product.

The needs of society for educational services, health-care and other establishments in the non-productive sphere are determined on the basis of norms which control the activity of this sphere. For example, the number of teachers for the plan period is calculated, proceeding from the total numbers of pupils and the normative for teacher-pupil ratio.

The need for defence and for the establishment of external economic ties both come into the area of social needs which it is essential to allow for.

2. The logic of the planning process on the basis of social needs

The logic of planning, the building of a plan arising from social needs, is most consistently realised when the sum total of ultimate needs (ultimate consumption) is taken as the starting point. The construction of a system and the sequence of working out a plan from ultimate consumption demands a number of preconditions.

First of all, a definite level of economic development of the country is presupposed, when all the preconditions for accelerated industrial development have already been set up, and sectors are being formed for the production of the means of production and articles of consumption. This creates conditions of harmonious development of the economy and the utilisation of the productive apparatus for the increasingly complete satisfaction of the varied needs of society.

In order to implement the principle of constructing a plan for the development of the economy, proceeding from the ultimate needs of society, it is essential to accumulate planning experience and utilise specific tools for the job.

In this sense the drawing up of an inter-sectoral balance of production and consumption of the social product plays an important role. Knowing the ultimate needs of society, an inter-sectoral balance permits the volume of production for each sector of the economy to be calculated. It affords the possibility of balancing production and consumption, and of co-ordinating the volume of production with the essential labour resources and fixed productive assets. In this balance the co-ordination of sector indicators with the general parameters of economic development for the future is assured.

In certain circumstances the initial point for drawing up an economic plan may be not the sum total of ultimate needs, but the need for a specific product or group of products. Such an approach to the formulation of a plan means in practice that it is constructed on the basis of separate sectoral projects.

Such an approach was, for instance, and may be typical for the initial period of planning, when a modern material and technical base for production is being created at accelerated rates, when the country is experiencing shortages of important types of output, particularly in heavy industry. An analogous approach may be utilised in the conditions of developing countries, where the preconditions for industrial development are being formed.

With the creation of a detailed system of sectors of industry, and the gradual overcoming of shortages of

productive resources and consumer goods, objective conditions are created for the re-orientation of planning to the needs of ultimate consumption.

The practical construction of a plan, issuing from sectoral projects, is likewise essential in conditions of narrow specialisation when a few, and sometimes only one, sectors play a decisive role in the country's economy. In this case the satisfaction of the country's internal needs is conditioned by the development of this branch and by the export of a limited range of products. It is natural that the plan parameters of such sectors play the role of initial guidelines for other indicators of economic development.

Nevertheless, in this case too, determining the range of the country's social needs, and the sequence and degree of their satisfaction at every stage of economic development remains an important task of planning.

3. Estimation of productive resources

The task of planning consists in searching for the best (optimum) ways of satisfying social needs, whilst permitting the maximum economy in productive resources.

Productive resources include natural resources essential for production, the workforce, fixed assets and stocks of circulating assets (objects of labour), in particular raw, semi-processed and manufactured materials, etc., and likewise the capital investments needed for the replacement and further extension of these assets.

Natural resources are the primary source of the material content of all articles produced by man. But only with the help of labour, of the workforce can the production of all the diverse material benefits, essential to society and to each of its members, be carried on. Only labour can transform natural substances into use value for man. Labour-power can only function when equipped with the means of labour, with productive assets. The efficiency and productivity of manual labour depends to a decisive extent on the degree to which it is

equipped with the means of production. Thus, the basic forms of resources are inextricably bound together.

The degree of involvement in production and the efficiency of each of the named resources depend on the level and rates of development of science and technology. The results of scientific and technical progress are accumulated in fixed assets, in the quality, capacity, energy and productivity of the means of labour, in technology and the organisation of production. Scientific and technical progress itself opens up new ways and possibilities for man to gain mastery over natural resources, and creates the material prerequisites for further raising the productivity of labour.

The necessity for an estimate of productive resources, as an important prerequisite for the planning and control of production, is determined by the obvious fact that the quantity of these resources for each plan period is limited.

For some forms of resources the limitation on their quantity is absolute. This applies, for example, to non-renewable natural resources in the depths of the earth. Such limitation can only be overcome on the basis of a technical process by means of the replacement of one natural substance by material artificially created from another substance.

Other forms of resources such as manpower, productive assets, some kinds of renewable natural resources (including soil fertility, timber and other kinds of vegetation and similarly zoological resources) are renewable. The limitation in this case is relative to the duration of the plan period. In the course of a given period an available resource can be reproduced to a limited extent only. The increase of a resource in still greater measure also requires more time, which increases the term of the plan period.

The degree of involvement in economic turnover of potential productive resources, the character of their utilisation and renewal depend to a decisive extent on social and economic conditions. In socialist countries the nationalisation of the means of production and the transition to a planned organisation of the national economy under the leadership of the state allowed enormous, previously little used, resources of economic

growth to be placed at the service of society. Under capitalism private ownership of land, high and almost constantly rising prices for it, and high rents put considerable restrictions on the efficient use of the land and minerals, and encourage the plundering of natural wealth.

An increase in scale and growth of the rate of accumulation, together with other factors, allowed the Soviet state from its very first steps to increase materially the resources of capital investments. Their systematic growth was the prime source of the technical re-equipment of all branches of the economy, the assimilation of natural wealth, economy in the use of manpower and the growth of labour productivity.

Thus, an estimate of the resources of production presupposes an analysis of social and economic factors of development of the country's economy. Economic planning can successfully cope with the task of providing production with resources only in favourable social and economic conditions.

Determining the provision of natural resources. An estimate of natural resources must include all basic forms of natural energy resources, all types of fuel, and ferrous, non-ferrous and rare metals, non-mineral raw materials (for example, potassium salts, apatites, limestone, building materials, etc.), vegetation resources, especially forest wealth and in the future marine vegetation, zoological resources on land and in seas and rivers. It is essential to determine the provision of agricultural land and also reserves of fresh water.

An estimate of natural resources includes: a) an estimate of the volume of the given resources; b) determination of the expenses essential for its acquisition, and in some cases for its renewal; c) a relative (comparative) economic estimate of natural resources.

Successful planned development of production requires determination of the extent of provisioning the economy with natural resources over a long period. Moreover it must be taken into consideration that, for example, in the case of mineral raw materials a considerable time passes between the moment of their discovery and the development of operating works. The provision of resources of the given kind must be calcula-

ted for a period not less than the period required for the amortisation of fixed assets of the extracting branch.

Ideas on the provisioning of the economy with natural resources are not given once and for all. They change, first and foremost depending on the results of geological surveys of the territory. Thus, tsarist Russia was thought to have insufficient stocks of minerals, but the widespread setting up by the state of geological survey works in the years of Soviet power completely overturned these ideas. Thousands of new deposits of minerals were discovered, and the volume of ascertained reserves was many times increased in comparison with the pre-revolutionary period.

When estimating the future development of mineral raw material supplies and the cost of basic geological survey works, the calculation of the future condition of resources, the ascertained reserves of which will not satisfy the needs of the branches based on them, is of primary importance. However, a long-term estimate is also essential in relation to those mineral and other resources which are generally expected to satisfy the requirements of the economy in the future. It is particularly important to apportion the necessary means to prospecting for resources which are in particularly short supply.

Thus, the arrangement of a geological prospecting service, the allocation to it of material and financial resources, the establishment of control over the proper utilisation of all natural resources is an important element in the system of measures for the move to a planned management of the economy. It is one of the conditions for solving the problem of providing economic development with the essential natural resources and raising the efficiency of social production. Further descent into the depths of the earth, implementation of the possibilities of extracting wealth from the bottom of the ocean and out of its depths, the exploitation of thermal springs and tidal energy, the massive use of desalination plants to obtain both drinking and non-drinkable water and so on, depend on the newest techniques, economically efficient technology and qualified personnel. An acceleration of technical progress, world

scientific and technical experience are essential prerequisites for solving the problem of providing economic development with natural resources.

4. Estimation of labour resources

A balanced plan is directly connected with the planning of labour resources. The condition of labour resources to a large extent determines the economic policy of the state. An abundance of labour resources and a large demand for jobs make a labour-intensive and a relatively less capital-intensive variant of economic development preferable. In this situation the choice of the variant with a low capital cost for each additional job becomes expedient. In conditions where labour resources have been drained and a shortage of manpower arises, the labour-intensive variant of the development of production becomes unacceptable. In this case it is necessary to make additional capital expenditures on the increase of labour productivity by means of growth in the assets-to-worker ratio and the release of part of the labour force from active production in order to utilise it in new enterprises and developing branches.

Economic planning in many countries puts the most rational use of labour resources as its aim. At the same time it should be noted that the most efficient use of labour resources on the scale of the whole society is possible only on the basis of planning.

The estimation of the possibilities of involving the workforce in production rests on the analysis of the demographic situation in the country. Planning in socialist countries proceeds from the fact that the laws of population movement are not biological laws, but social, determined by the character of production relations and the level achieved in the development of productive forces.

The dynamic of population depends on the correlation of indicators of births and deaths. Historical experience has shown that in proportion to the development of productive forces and a rise in the economic matu-

rity of society, a period of high birth-rate with a simultaneous high death-rate was replaced by a period of reduced death-rate with the preservation of a relatively high birth-rate. Then follows a stage of controlled and relatively low birth-rate with a low death-rate, and in conditions of a very high level of economic development and material security of the population there is a characteristic rise in the level of births. In accordance with the historically shaped correlation of birth- and death-rates, the dynamic of population was characterised by the fact that from very low indicators of its growth there came a move towards accelerated population growth, then towards a lowering of rates of growth, which, finally, may be replaced by a new acceleration of population dynamic.

Analysis of the demographic situation answers the question as to the stage at which there is the process of population increase in one or other country in contemporary conditions and in the projected future. This creates a common base for estimating the possibilities of involving the workforce in the national economy and first and foremost an estimate of the age structure of the population. Such calculations are essential for determining the numbers and proportion of the population who are of working age. The higher the proportion of the population that is of working age, the more the possibilities of involving the workforce in the economy. Real possibilities of involving labour resources in social production depend also on how the population of working age is distributed by age groups. For example, an increase in the proportion of younger ages means that there will be an increase in proportion of people of whom a considerable part will be engaged in study.

Determination of the population structure by sexes plays an important part in estimating labour resources. Naturally the proportion of women who can be involved in social production is less than that of men. If society is interested in increasing the employment of women in the economy, then it is necessary to create a number of additional conditions. Above all this concerns measures to widen the social forms of bringing up children—kindergartens and crèches, boarding schools and so on—and measures for health care and social security for working

women in general and in particular for women who become mothers.

In an analysis of the problems of providing the economy with labour resources the territorial aspect is important. A surplus of labour resources in some areas is frequently accompanied by a critical shortage in other areas. Therefore data on reserves of labour acquire a real value for planning, if they include calculations of the provision of labour in different economic regions. Such regional characteristics of labour resources need to be supplemented with data on inter-regional migration, with the explanation of its causes, intensity and influence on economic development.

Thus, a general quantitative estimate and planning of labour resources in the country presuppose the existence of a well-established statistical accounting of the dynamic and changes in the population structure (systematic censuses of population, current accounting, selective investigations and systems of demographic forecasts).

Estimates of the labour resources of the economy include not only their general quantitative description, but also indicators of their qualitative composition. The level of education (numbers and proportion of people with general, secondary and higher education) serves as the most general indicator of the qualitative composition of usable and potential labour resources. A detailed qualitative estimate requires an analysis of the occupational composition of the workforce and the determination of the available qualified cadres for the needs of production. Such an analysis creates the prerequisites for the formulation of organisational measures and the determination of material means for the training of qualified cadres.

5. Estimation of productive and non-productive assets

Economic development in the course of every new period rests on a material base created as a result of previous economic development. This is embodied in the accumulated stocks of fixed and circulating productive and non-productive assets, which society has at its disposal

at any given moment. They constitute the most important part of the national (social) wealth.

By *national wealth* we mean all material benefits, both those created during the given year, and those created earlier, and also natural resources, involved in economic turnover. The national wealth of the Soviet Union by the end of 1980, expressed in monetary terms, exceeded 2,700,000 million roubles (not counting the value of land and forests). The most important part of the national wealth, the fixed assets, reached 1,744,000 million roubles by the end of 1980, including fixed productive assets which amounted to 1,149,000 million roubles (in comparable 1973 prices). In comparison with 1913 the value of all fixed assets in the USSR had increased 33-fold, and the value of production assets 39-fold by the beginning of 1980.

Accumulated *productive assets* include: a) fixed assets represented by industrial buildings and installations, machines, equipment, transport, etc.; b) stocks of circulating material assets, including reserves of raw materials, fuel, finished produce for production purposes located in enterprises, unfinished buildings; c) socially-owned reserves of the means of production.

Non-productive assets at the beginning of each plan period are represented by: a) fixed assets (buildings, installations, equipment) of non-production purpose such as health service institutions, cultural services, education, sport, housing and municipal services; b) finished consumer products located in the warehouses of enterprises and in circulation (in transit, in commercial stores); c) personal property (consumer durables) in the domestic economy; d) social reserves of consumer items, created in case of natural calamities and other emergencies. Assets of government institutions, political and social organisations, military installations and reserves of military property also come under the heading of non-productive assets.

An estimate of the size and structure of the national wealth is essential for determining the possibilities of economic growth in the future and formulating the tasks of an economic policy.

The size of the national wealth is characterised by the general level of development of the productive forces of

*Structure of fixed assets of the USSR economy
at the end of 1980 (in comparable 1973 prices)*

	Millions of roubles	As a per- centage of the total
All fixed assets (including cattle)	1,744,000	100
Fixed productive assets		
including:	1,149,000	65.9
industry	551,000	31.6
agriculture	238,000	13.6
transport and communications	239,000	13.7
construction	55,000	3.2
trade, public catering, stockpiles, material and technical supplies	66,000	3.8
Fixed non-productive assets	595,000	34.1
including:		
housing	339,000	19.4
municipal services and public utili- ties	78,000	4.4
health service, education	106,000	6.1
science, culture, arts, etc.	72,000	4.2

the country and the scale of accumulation, i.e., the economic potential of the country. The size of the national wealth, on a per capita basis, and also the indicators of its structure describe the level of economic development of the country in comparison with a previous period and in comparison with that of other countries.

In its non-productive part the national wealth serves as one of the indicators of the standard of living of the population, which is defined not only by the volume of goods available for consumption from current production but also the volume of consumer goods accumulated earlier. Moreover, the role of stocks of consumer durables as a factor in the national welfare increases with the development of society.

Estimation of the amount of national wealth (usually in value form) and its physical structure (productive and non-productive assets, fixed and circulating assets, buildings and installations, machines and mechanisms, domestic property) is carried out both by direct and indirect methods of calculation.

Direct methods of calculation are the preparation of inventories of the basic elements of wealth, and also sys-

tematic statistical and financial accounting of enterprises and institutions. The use of such methods in the USSR is materially eased by the fact that the basic means of production are social property, and that commercial secrecy has been abolished, and the activity of enterprises and institutions is carried on under the control of society.

The dimensions of domestic property are estimated with the help of indirect methods. Changes in the volume and composition of consumer durables sold, with an estimate of their serviceable life and of changes in price indices, are calculated. Indirect methods are utilised in estimating fixed assets by summarising capital investments over the period under investigation with an estimate of the periods of useful life of separate elements of fixed assets with adjustment for amortisation and change in prices.

In the process of production and consumption the magnitude of productive and non-productive assets undergoes changes. These assets become used up and a process of renewal and further expansion takes place. The source of reproduction of the assets, which were at the disposal of society at the start of the economic period under review, is the fund for the replacement of the social product created in this period and the national income.

The size of the replacement fund is determined depending on the magnitude of productive and non-productive assets and their periods of useful life. The resources of the national income directed to accumulation depend on the scale of production, on the rate of growth of the national income, and its sharing out between the current non-productive consumption fund and the accumulation fund. The problem of determining the resources of the national income for accumulation is in many respects identical with the problem of planning rates and proportions of reproduction which will be considered in the next chapter.

Determination of the volume and structure of social needs and the evaluation of production resources which society can utilise for the satisfaction of those needs forms the starting base for further planning calculations.

The essence of these calculations lies in the determining of the most rational directions for the use of re-

sources for satisfying public needs as fully as possible, and in the final analysis, the construction of a balanced model of the economy in which needs (consumption) are co-ordinated with resources (production).

Feasibility studies of parameters of the economic plan, proceeding from social needs and in balanced co-ordination with existing and foreseen resources, presuppose the implementation of the following system and sequence of calculations.

Firstly, amalgamated, macro-economic calculations of basic indicators of expanded reproduction are essential; with their help preliminary estimates of the real possibilities of development of social production are made. They are calculations of the dynamic of the national income and of the end social product, of the volume of personal consumption funds and of resources for capital investments. Such calculations are made with use of macro-economic models, in which are represented the volume and economic role of basic production factors (fixed and circulating assets, workforce), and also plan propositions on the effectiveness of their utilisation. At this stage the basic balance connections in the economy are already being worked out in preliminary form.

Secondly, calculations of the material content of the end product, and its physical structure, are also essential. Essentially these calculations provide a quantitative determination of the composition of public needs and the basic directions of their satisfaction taking into account available resources and the possibilities of expanding production. In these calculations use is made of economic-mathematical models for forecasting non-productive consumption and a series of normative indicators.

Thirdly, calculations of the volumes of production, inter-sectoral connections and sectoral structure of production, corresponding to the projected volume and structure of the end product, should be made. These calculations, carried out with the help of multi-sector (inter-branch) models, permit the balancing of social needs and social production and give the necessary guidelines for extensive calculations of plans for the development of the sectors.

Fourthly, it is essential to work out plans for the development of sectors and their distribution over the terri-

tory of the country. At this stage numerous and very specific planning calculations are carried out. The results of the extensive sectoral projects, most fully reflecting production possibilities, give the necessary amendments for all previous stages of planning calculations, right down to a more precise definition of synthetic indicators of national income, of the fund of non-productive consumption, volume of capital investments etc.

The main parameters of the economic plan are finalised as a result of mutual adjustment, of balancing and mutual co-ordination of the results of the above system of planning calculations. Feasibility studies of indicators of the economic plan also include an evaluation of the effectiveness of planning decisions.

6. The effectiveness of planning decisions

The main direction of economic development in socialist countries in modern conditions is the intensification of social production and the raising of its efficiency. The *intensive path of development* means that growth of production is not obtained through an increase in the volume of resources involved in production but in their more rational utilisation. It is essential to distinguish between the concepts of efficiency and effect.

Economic effect is the size of income, increase in production, reduction in expenditure, etc., irrespective of the resources which ensure it. Under social effect we understand a rise in the well-being of the population, growth in the level of education and culture, an improvement in health services, an increase in free time and so on. *Efficiency* is calculated as the relation of economic (or social) effect to the expenditures necessary for its achievement.

A socialist society is far from indifferent to the price that has to be paid to ensure the achievement of the set aims, whether it is to be through over-expenditure of natural wealth or better utilisation of the available resources. On the basis of constant growth in the efficiency of social production all new and varied problems can be solved.

Basic ways of increasing the efficiency of social production are the introduction into production of the achievements of science and technology, technical re-equipment of active enterprises, intensification of production, an improvement in the quality of output, the development of specialisation and co-operation in production, growth of concentration of production, rational utilisation of material, labour and financial resources, rational distribution of productive capacity, the improvement of the system of planning and controlling the economy, and also the development of the international socialist division of labour.

Planning of the efficiency of social production is carried out on the basis of general principles common to all sections of the economy. Evaluation of economic efficiency of the production plan takes place on the basis of a single economic criterion, the maximisation of growth in the national income (net income) in relation to production costs or to the resources used in production with optimum co-ordination of the consumption and accumulation funds. In enterprises and associations indicators of growth of profits and profitability are used as indicators of efficiency.

For the national economy and union republics as a whole indicators of efficiency of production are determined on the basis of national income produced; for sectors of the economy, sectors of industry and enterprises, on the basis of profits and pure output.

Numerous factors affect the efficiency of production, therefore planning of the economic efficiency of social production is carried out according to a set of indicators. Only a system of complementary indicators allows correct conclusions to be drawn about the level of efficiency. In the USSR plans for increasing the efficiency of production are worked out at national and sectoral levels and in enterprises. In five-year plans indicators of a rise in the efficiency of production are given for each year. The most important indicators of efficiency of production are mandatory.

A unified system of plan indicators of the efficiency of social production at all levels of the economy is given in the table.

A system of indicators (estimates) of efficiency

The economy as a whole	Sectors of material production, associations and enterprises
Aggregated indicators	
Rates of growth of per capita national income produced	Rates of growth of production: a) pure output (works) b) commodity (gross) output (works)
Production of national income per rouble expended	Production of output per rouble expended
Relative saving:	Relative saving:
a) fixed productive assets	a) fixed productive assets
b) standardised circulating assets	b) standardised circulating assets
c) material expenditure minus amortisation	c) material expenditure minus amortisation
d) funds for the payment of labour of workers in the sphere of material production	d) funds for the payment of labour
General profitability	
a) relation of accumulation (profits and turnover tax) to average annual value of fixed productive assets	Relation of total balance of profit to average annual value of fixed productive assets and standardised circulating assets
b) relation of profits to average annual value of fixed productive assets and standardised circulating assets	
Indicators of the efficiency of utilisation of labour	
Rate of growth of productivity of social labour (in indicators of national income)	Rate of growth of productivity of labour (by pure output)
Proportion of growth of national income through increased productivity of labour	Proportion of growth of pure output through increased productivity of labour
Saving of manpower of current workers (in comparison with conditions of the base year)	Saving of manpower of current workers (in comparison with conditions of the base year)
Indicators of increase of efficiency of utilisation of fixed assets	
Output-fixed assets ratio — production of national income per rouble of average annual value of fixed productive assets	Output-fixed assets ratio — production of pure output per rouble of average annual value of fixed productive assets

Continued

The economy as a whole	Sectors of material production, associations and enterprises
Indicators of increase in the efficiency of capital investments	
Ratio of growth of annual volume of national income to the capital investment producing this growth	Ratio of growth of pure output to the capital investment producing this growth Specific capital investments: a) for one unit of productive capacity brought into use b) for 1 rouble growth of pure (gross) output
Period of return of capital investments—ratio of capital investments to total growth of accumulations obtained from these investments	Period of return of capital investments—ratio of capital investments to total growth of profits obtained from these investments
Indicators of increase in the efficiency of utilisation of material resources	
Material outlays (minus amortisation) calculated per rouble of social product	Material outlays (minus amortisation) calculated per rouble of pure (gross) output

The efficiency of social production is determined at every stage of planning. In the preparatory stage indicators of the efficiency of social production are utilised when calculating variants of rates of growth and proportions of the economy. When working out basic guidelines of economic and social development of a country indicators of productive efficiency, calculated for branches of the economy and branches of industry, are used for planning a progressive structure of social production and the rational siting of productive forces over the territory of the country. When working out a five-year plan, plan indicators of the efficiency of production are compared with analogous indicators of the previous plan and of the long-term plan. Basic indicators of the efficiency of social production are determined within the framework of the calculation of the balance of the national income and the inter-sectoral balance.

Let us look more closely at some of these indicators of the efficiency of social production.

The indicators of "*Rate of growth of per capita nation-*

al income produced" and *"Rate of growth of pure output by sectors of material production"* are the most important indicators of the efficiency of social production. They describe improvement in the utilisation of resources with the aim of improving the well-being of the nation and expanding production in the future. Steady rates of growth of production and of national income in socialist countries are ensured on the basis of an acceleration of scientific and technical progress, the intensification of social production, growth of labour productivity, an improvement in the utilisation of fixed productive assets and material resources, the improvement of the structure of production and other factors.

Considering that in socialist countries the national income is the sole source of growth in the well-being of the people, its rates of growth characterise, in a generalised form, the efficiency of social production. However, this indicator does not take into account the price to be paid for achieving an acceleration in economic growth. The indicator "Production of national income (pure output) per rouble expended" provides the possibility of expressing in value form the results of actual expenditures and the efforts of the workforce.

Calculation of indicators of production of the national income and pure output per rouble expended (conventional figures, millions of roubles)

	Code of indicators	1980	1985
National income	N_i	50,000	75,000
Pure output (minus turnover tax)	O_p	45,000	70,000
Production expenditure	E_p	100,000	145,000

Indicators of production of the national income and pure output per rouble outlay (E_{ff}) are defined as the ratio of the national income, N_i or pure output O_p , respectively to the total production expenditure (production costs) E_p . Production expenditure includes material expenditures, deductions for amortisation and wages fund.

Efficiency of utilisation of outlay on the production of the national income:

In 1980 $E_{ff} = \frac{50}{102} = 0.5$ roubles of national income per 1 rouble;

In 1985 $E_{ff} = \frac{75}{145} = 0.517$ roubles of national income per rouble expended.

In 1980 1 rouble outlay produced 0.5 rouble of national income, whereas in 1985 this indicator will already be 0.517 rouble. In other words, the efficiency of utilisation of outlay on the production of the national income will rise by 3.4 per cent, i.e., $\frac{0.517}{0.5} \times 100 = 103.4\%$.

The efficiency of utilisation of expenditure on the production of pure output:

In 1980 $E_{ff} = \frac{45}{100} = 0.45$ roubles' worth of pure output per rouble outlay;

In 1985 $E_{ff} = \frac{70}{145} = 0.483$ roubles' worth of pure output per rouble outlay.

The efficiency of utilisation of expenditure on the production of pure output over the five years in our theoretical example should grow by 7.3 per cent, i.e., $\frac{0.483}{0.45} \times 100 = 107.3\%$.

In the calculation of relative economy of fixed productive assets, standardised circulating assets, material expenses and the wages fund of workers in the field of material production, it must be borne in mind that separate kinds of resources have varying influence on the general efficiency of social production.

The relative economy of fixed productive assets (E_a) over the country as a whole is defined as the difference between the average annual value of fixed productive assets calculated for the volume of production of national income according to the output-fixed assets ratio of the base year and the average annual value of fixed productive assets envisaged for the plan year.

The calculation is made according to the formula:

$$E_a = A_0 \times K - Ap,$$

where E_a is the relative economy of fixed productive assets in the plan year;

A_o and A_p are the average annual value of fixed productive assets in the base and plan years respectively;

K is the indicator of growth in volume of the national income in the plan year compared with the base year.

An analogous method is used to calculate the relative economy of standardised expenditures on the production of the aggregate social product, and also the relative economy of the wages fund.

General profitability is one of the most important indicators of the economic efficiency of production in enterprises, associations, branches of the economy and in the economy as a whole. General profitability describes the end economic result of activity over a definite period of time.

For the whole economy it is defined as:

a) the ratio of planned accumulation (profits and turnover taxes—the centralised revenue of the state) to the average annual value of fixed productive assets and standardised circulating assets;

b) the ratio of profits to the average annual value of fixed productive assets and standardised circulating assets.

When planning profitability particular attention is paid to the search for reserves for increasing the rate of its growth on the basis of the most rational and efficient use of material, labour and financial resources and natural wealth.

Efficiency of utilisation of manpower is determined with the help of the indicator of growth of labour productivity. Productivity of social labour over the whole country is measured by the volume of national income calculated for one worker in the sphere of material production, and in sectors of the economy and enterprises, by the production of normative pure output calculated for one average workman. Growth of labour productivity is determined by calculating the saving in working time according to groups of factors and the determination of relative economy.

The volume of national income calculated for one rouble of average annual value of the fixed productive assets of branches of material production is an aggregat-

ed indicator characterising the level of utilisation of fixed productive assets over the country as a whole. In long-term and annual plans provision is made for measures to increase the output-fixed assets ratio in working and newly activated enterprises as a result of the introduction of advanced technology, the renewal and modernisation of equipment, an acceleration in the assimilation of productive capacity, and changes in the sectoral structure of production.

One of the directions for increasing the efficiency of social production is a reduction in the specific consumption of materials, that is, a reduction in the expenditure of material resources in the production of manufactured products, economy in the use of raw materials, fuel and electric power. Savings of raw materials can be achieved by more thorough processing, reduction of waste and loss of raw materials, the elimination of defective products, an improvement in the quality of goods and in the design of machines and equipment, and other factors.

In state plans provision is made for tasks to economise on raw and manufactured material resources in industry, agriculture, transport and other branches of the economy. Economy in the use of resources permits the increased output of finished products from the available raw materials, reduces the cost of manufacture and raises the profitability of production. In planning, the indicator of the level of material expenditure over the country as a whole is defined as the ratio of material expenditure (minus amortisation) of sectors of material production per rouble of the social product, and for sectors of the economy and enterprises as the ratio of material expenditure (minus amortisation) per rouble of commodity (gross or pure) production. Direct material expenditures (raw materials, manufactured materials, fuel, energy and others) are included in material expenditure.

Chapter V

PLANNING RATES OF ECONOMIC DEVELOPMENT AND THE PROPORTIONS OF SOCIAL PRODUCTION

1. Planning rates of economic development

The determining of social needs and their comparison with available resources allow us to move to calculations of the general contours of the future plan. One of the aggregated indicators of economic development is the rate of growth of the national income and of aggregate (gross) social product. The aggregate social product represents the sum total of material goods and services created in all branches of material production over a definite period (usually one year). In value form it is divided into the fund for replacement of used-up means of production (consumption of raw and manufactured materials, fuel, energy and amortisation) and the national income (newly created value).

The national income and its rates of growth most fully express the result of the economic activity of society. The higher the rate of growth of the national income, the more opportunities the country has to improve the standard of living of the population and for further development of production.

In planning it is necessary to provide for steady rates of economic development not only in separate periods and years, but over the course of the whole plan period. However, striving for high rates of growth should not lose touch with the real possibilities of the well-founded estimate of material, labour and financial resources. Rates of growth aimed for in the plan must be based on precise, reliable economic calculations.

In socialist conditions the planning of economic growth is not an end in itself. The criterion of social

production and economic development under socialism is the maximum satisfaction of social needs. Therefore, in planning it is essential to provide for the output of produce whose structure, composition and quality will answer the needs of society to the maximum degree. It is very important that steady rates of economic development should be ensured chiefly as a result of the most effective use of those resources that society has at its disposal.

Movement of the national income passes through the following stages: production, distribution, exchange and final utilisation. The national income produced is arrived at by excluding the material expenditure from the aggregate social product.

The distributed national income is equal to the sum of the incomes of participants in material production (pay, profit, etc.). The usable national income consists of the consumption fund and the accumulation fund:

$$Y_t = C_t + A_t,$$

where Y is the volume of national income;

C is the consumption fund, including personal and social consumption;

A —production and non-productive accumulation of fixed and circulating assets, stock and reserves;
 t —time.

In the USSR in 1980 the aggregate social product amounted to 1,072,000 million roubles, the national income produced was 458,500 million roubles. Of this total the amount utilised for consumption and accumulation (after allowing for the replacement of losses and foreign trade balance) was 450,800 million roubles, of which the consumption fund took 343,600 million and the accumulation fund, 107,200 million roubles.

The annual rate of growth of the national income is determined by the following formula:

$$y = \frac{\Delta Y_{t+1}}{Y_t},$$

where y is annual rate of growth of national income;

ΔY_{t+1} —growth of national income in the year $t + 1$;

Y_t —volume of national income in the year t .

For example, the national income of the USSR in 1977 was 405,600 million roubles, in 1978 it was 422,500 million roubles. Consequently the growth of the national income of the country in 1978 was 16,900 million roubles (422,500 million—405,600 million), and the annual rate of growth was 4.16 per cent, i.e.,

$$\frac{16,900,000,000}{405,600,000,000} \times 100$$

Knowing the average rate of growth of the national income, its volume at the end of the plan period may be determined by the following formula:

$$Y_t = Y_o (1 + y)^t,$$

where Y_t is the national income at the end of the plan period;

Y_o is the national income in the base year;

y is the average annual rate of growth.

Steady rates of growth of the national income are characteristic of the economies of socialist countries. In comparison with 1928, the year before the adoption of the first five-year plan, the gross social product in the USSR in 1978 was 57 times greater, national income produced was 68 times, and fixed productive assets, 34 times greater. Data from other five-year plans shows this also.

*Total national income by five-year plans
(in comparable prices, in millions
of roubles)*

Period	National income
Seventh five-year plan (1961-1965)	885,000
Eighth five-year plan (1966-1970)	1,230,000
Ninth five-year plan (1971-1975)	1,647,000
Tenth five-year plan (1976-1980)	2,084,000

Rates of economic development in the plan period are determined both in the initial and in the concluding stages of preparation of the plan. At the initial stage a broad model of the plan is constructed. This serves as a base for further, more detailed, projections for the most important branches and economic regions, in the

fields of capital investment, labour, and standard of living. Rates of economic development are co-ordinated at this stage with the resources that can be applied to the increase of production and improvement in the standard of living. In the final stage, with the help of the plan balance of the economy, projected rates of development of social production as a whole and by sectors and regions of the country are thoroughly grounded.

Indicators of economic development in the initial and final stages of preparation of a plan may differ among themselves.

The working out of a plan is an iterative process, in which rates of economic development appear simultaneously as initial and final links in a chain.

Together with indicators of rates of growth of national income wide use is made of the indicator of the volume of national income per head of the population. Rates of growth of the per capita national income more fully reflect a rise in the level of economic development than a rise in the volume of national income. This indicator characterises the correlation of rates of growth of national income and rates of population growth:

$$y_{g.c.} = \frac{y}{G},$$

where $y_{g.c.}$ is the rate of growth per capita;

y is the average annual rate of growth of national income;

G is the rate of population growth.

Example. $y = 10\%$, $G = 3\%$, then $y_{g.c.} = \frac{1.10}{1.03} = 1.0679$, i.e.,
 $y_{g.c.} = 6.8$

Plan calculations of rates of economic development are based both on revealing the influence of each of the factors of expanded reproduction, and an analysis of their combined effect. The most important factors influencing the rate of growth of national income are technical progress, manpower and the level of its qualifications, labour productivity, productive assets and the level of their utilisation, natural resources, sectoral structure and location of production, as well as the economic policy of the state and the level of planning. Social conditions, first and foremost the nature of

ownership of the means of production, have an enormous influence on the rate of economic development.

To take into account the influence of each of the enumerated factors is quite complicated; therefore, practical calculations of the rates of growth of national income focus on the physical and labour elements of productive forces which take a direct part in the production process.

At the preliminary stage of planning, when detailed sectoral projections are lacking, possible rates of growth of national income are determined by a combination of three methods:

- determination of the dynamic of national income on the basis of change in the numbers employed in material production and in the growth of productivity of labour;

- basing the rates of growth of social production on the increase in total expenditure of fixed productive assets and productive capital investment and the growth of their effectiveness;

- determination of the national income on the basis of an increase in the total expenditure of assets and manpower and changes in their total efficiency.

The first two methods reflect, in essence, a single-factor approach. The first method shows the dependence of the growth of national income on the cost of labour, and the second on fixed productive assets. The third method is multi-factor and the multi-factored model corresponds to it.

Calculations by different methods are carried on in parallel, mutually intersecting and amplifying one another. In the course of calculations extrapolations (calculations on the basis of trends in the previous period) are unavoidable, as also are temporary hypotheses, which in the course of further planning will either become more precise or be rejected. One and the same indicator is determined at different stages from different aspects: now from the point of view of ensuring the given level of one or other indicator, now from the point of view of the economic possibilities of carrying out this task. As the result of gradual approximation resources and needs are co-ordinated.

The decisive factor in the growth of national income is

an increase in the productivity of labour. In socialist countries 80-90 per cent of the growth in national income is provided by this factor. Man is the chief productive force of society. The scale of production depends to a large extent on the size of labour resources and the productivity of social labour.

The method of determining the dynamic of the national income on the basis of change in the numbers employed in material production and the growth of labour productivity is based on an estimate of labour resources, the amount of working time and possible growth in labour productivity. Calculations start from a demographic analysis of birth- and death-rates, sex, age and social structure of the population, proceeding from which the total labour resources are determined. The distribution of labour resources between productive and non-productive spheres is also taken into account. The size of the national income at the end of the plan period can in this case be determined by the formula:

$$Y = P \times L,$$

where P is the productivity of social labour;

L is the number employed in material production (amount of working time).

For example, the number employed in material production is envisaged as reaching 30 million at the end of the plan period, and the productivity of one employee is to amount to 6,000 roubles, then the national income at the end of the plan period will amount to 180,000 million roubles (6,000 roubles \times 30 million).

An increase in the productivity of labour depends on the influence of various factors: the provision of machines and equipment, the organisation of the production process, the stability and dependability of links between branches, and material and moral incentives. Therefore, analysis of the influence of labour productivity on the rate of growth of the national income to a significant extent reduces directly to the disclosure of factors of growth in labour productivity.

The second method used in planning rates of economic growth is to base rates of growth of the national income on the possible dynamic of fixed productive assets, capital investments and accumulations. The size of the nation-

al income in any year of the plan period can be determined by multiplying two elements—the volume of productive assets and their efficiency, their output-fixed assets ratio. The output-fixed assets ratio describes the relation of produce in monetary terms to the estimate of fixed productive assets with the help of which this produce is obtained. An increase in the physical volume of productive assets depends on the volume of capital investments directed to the sphere of material production. Determining the dynamic of the output-fixed assets ratio in the plan period is a very complicated task, as here it is essential to take into account numerous factors which at times act in opposite directions. First of all, factors influencing the dynamic of the output-fixed assets ratio appear, then there is a quantitative calculation of each factor in their interaction. The most important factors influencing the dynamic of the output-fixed assets ratio are:

- the introduction into production of the achievements of scientific and technical progress;

- changes in the structure of fixed productive assets, an increase in the share of their most active part—machines and equipment;

- changes in the sectoral and territorial structure of production;

- the level of utilisation of current assets, and others.

In the two named methods the rates of growth of national income were regarded as a function of manpower alone or of the means of labour alone. With the help of the third method the size and rate of growth of the national income can be determined dependent on two variables acting simultaneously, that is $Y = f(k, L)$. Such a multi-factored approach permits the evaluation of various combinations between growth in the expenditure of labour and productive assets, between the dynamic of their total expenditure and the increase in their economic efficiency. The multi-factored approach to the rate of growth of the national income is a step towards the next stage—the planning of the most important proportions and structure of social production.

2. Planning the proportions of social production

Indicators of rates and proportions are tightly bound up with one another. Steady growth rates are possible only when quantitative ratios and proportions of development of social production are soundly based.

The most difficult task in the preparation of plans is to ensure the proportional development of the whole economy, to co-ordinate production and consumption, resources and needs at all levels of planning (national, sectoral, regional and local); to co-ordinate the development of separate branches with rates of development of the whole economy. In addition it is essential to combine economic and social planning organically.

The character, composition and direction of the basic proportions must be planned in accordance with the requirements of the objective economic laws of socialism. However, economic laws do not determine the precise quantitative dimensions of these proportions. The requirements of one and the same law may be quantitatively expressed in several variants. It is, therefore, expedient to prepare several variants of the planned projections for the economic and social development of the country and choose the optimum variant, i.e., the best one for the plan period. The working out of the optimum variant of the plan depends on the degree of knowledge of economic laws and the mastery of the mechanism of control of the economy.

The diversity of proportions in the economy can be reduced to four basic groups: a) general economic; b) intersectoral; c) intra-sectoral; d) territorial.

General economic proportions describe the most general ratios in the production and utilisation of the aggregate social product and, in particular, of the national income. The following will serve as examples of the most important general economic proportions: the correlation between the aggregate social product and the national income, between production of the means of production (Group A) and the production of articles of consumption (Group B), between the shares of consumption and accumulation in the national income, between the sphere of material production and the non-productive sphere.

Inter-sectoral proportions describe the correlations in development between different branches of the economy, for example, between industry and agriculture, transport or construction.

Intra-sectoral proportions are the ratios between production within the given sector, for example, between the mining of ferrous ores and the production of cast iron, steel and rolled iron in metallurgy, between plant-growing and stock-raising in agriculture.

Territorial proportions are the ratios between separate economic regions, between the siting of productive forces and the production of goods in these regions.

In planning a great deal of attention is paid to the ratios in the development of Groups A and B of social production. The action of the law of the priority growth of the means of production in socialist conditions is revealed in this ratio. A component part of the ratio between Groups A and B is the ratio between production of the means of production and the production of articles of consumption in industry (correlation of Groups A and B). The contents of this ratio directly affect the rates of economic development of a country, and the dynamic of the standard of living of the population. Priority development of Group A is an essential condition for the maintenance of high and constant rates of growth. In the USSR Group A of social production is developing at higher rates than Group B; however, the gap in the rates of their development is constantly being narrowed.

The aggregate social product breaks down into *the replacement fund* for the means of production consumed in the production process, and the national income, which in turn is divided into two parts, *the consumption fund* and *the accumulation fund*.

Structure of the aggregate social product

Aggregate social product		
Replacement fund for means of production	National income	
	Consumption fund	Accumulation fund

The structure of the aggregate social product depends on the level of economic development of the country, and the volume of accumulated fixed assets.

The share of the replacement fund rises in proportion to the industrial development of the country. This is bound up with the development of productive forces, with scientific and technical progress and with the growth of output in Group A of social production.

The replacement fund takes in expenditure on raw and other materials, fuel, amortisation of fixed productive assets, and financial expenditure on the maintenance of the management apparatus. Economy in material expenditure has great economic significance; other things being equal, it leads to growth in the national income.

The ratio between the accumulation and consumption funds in the national income is a matter of principle for the development of the economy. This ratio must simultaneously ensure the expansion of production and a rise in the standard of living of the population. The accumulation fund serves for the expansion of production and includes: increment of fixed assets (production and residential buildings, equipment and machines, working and productive cattle, etc.), increment of circulating material assets (stocks of raw and other materials, fuel, finished products, stocks of goods in trade, stocks of agricultural produce, unfinished capital construction), growth of state reserves, and increment of personal stocks of agricultural produce owned by the population. The accumulation fund includes articles of consumption, and also material benefits used for the maintenance of non-production establishments and organisations (expenditure for these purposes of electric power, water, medicines, etc.).

Between accumulation and consumption there is a dialectical interdependence: a close connection and a relative contradiction. The greater the share of the accumulation fund at any given moment, the smaller the share of the consumption fund, which is used to raise the standard of living of the population, and vice versa. Over a longer term this relative contradiction disappears, as accumulation over the current period serves to improve the standard of living in the future. The absolute dimensions of these funds increase with the development of produc-

tion and a simultaneous increase in the absolute and per capita sizes of the consumption fund.

At the present time the share of the accumulation fund in the national income of socialist countries amounts to 25-27 per cent. During the time industrialisation is going on the share of accumulation rises, and afterwards may fall. Historical experience has shown that the relatively high rate of accumulation enabled the USSR to create a powerful material and technical foundation in a historically short period, to employ new millions of workers in production and to raise the people's well-being considerably. The USSR, surrounded by capitalist countries, in conditions of an unfavourable international situation was compelled to force the industrialisation of the country and to compress the period of its implementation to the limit. The USSR relied exclusively on its own strength and its own resources. This, naturally, restricted the possibility of a sharp increase in the material welfare of the population at the time.

The state, laying the foundation of the national economy in the form of heavy industry, power engineering, transport and various branches of production infrastructure, uses large capital investments from which there is no immediate proportional return. As a modern industrial base is created, so the return on investments increases, the productivity of labour on the scale of the whole economy rises, the production of consumer goods increases, health care, education, science and culture develop.

In the USSR a consistent course towards the improvement of the people's living standard is followed. In particular, in the initial period of industrialisation unemployment was eliminated, the working day was shortened, the medical service was materially improved, and so on. But in the specific conditions of that period a certain limitation of growth in consumption was needed.

The development of other socialist countries took place under different conditions, for they could rely on the help and support of the USSR just as on that of all the countries of the world socialist system.

Economic proportions are not unchangeable. They change under the influence of technical progress and the development of social needs. A change in social needs affects proportions through the plan for production of spe-

cific types of output. As a result of technical progress new types of output appear and new lines of production are created, which also lead to a change in the existing proportions.

The proportions of social production constitute a single system all elements of which are closely bound up with one another. This dictates a comprehensive approach to their planning. Therefore the co-ordination of physical and value proportions at all levels of planning and controlling the economy is important for ensuring proportional development of the economy.

The initial variant of general economic proportions has already been determined when estimating the possible rates of economic growth. Single- and multi-factor models of growth, which are based on expert appraisals of the balance indicators of the economy for the plan period, are utilised for this. All subsequent stages of planning allow the initial characteristics of proportions to be continually adjusted.

Inter-sectoral proportions are determined after the initial calculations of rates of growth have been made and the characteristics of general economic proportions obtained. Inter-sectoral proportions describe the structure of production (or the sectoral structure of the economy).

Planning of the sectoral structure of social production is a bridge between the planning of general rates and proportions of economic development and detailed plans for the development of separate sectors. It provides sectoral differentiation for such synthetic indicators of the plan as the volumes of the national income and the end and gross social product, the volume of capital investments in the economy and of labour resources, a correlation between consumption and accumulation in the national income, between Groups A and B of social production, etc.

The setting up of a plan for the development of a sectoral and territorial structure of social production is in essence the working out of basic indicators of the production programme of the national economy. This process is inseparably tied to the preparation of all sections of the national economic plan: the plan of capital construction, the plan for labour, the plan for raising the standard of living of the population, etc. The final plan for the devel-

opment of the sectoral and territorial structure of social production is obtained in the process of repeated, multi-lateral co-ordination of all sections of the economic plan, when each indicator is both the source and the result of the most varied plan calculations.

At this stage of planning proportionality is reached with the aid of the balance method and economico-mathematical models of inter-sectoral balances. The simplest (so-called static) model of such a balance is written in the form of a system of linear equations:

$$X_i - \sum_{j=1}^n a_{ij} X_j = Y_i, \quad (i = 1, 2, \dots, n),$$

where X_i is the volume of production of sector i ;

X_j is the volume of production of sector j ;

Y_i is the ultimate output of sector i , that is, the production of sector i used for investment, personal and social consumption and export;

a_{ij} is the rate of expenditure of the output of sector i for the manufacture of one unit of output of sector j .

The planning of the sectoral structure of social production on the basis of a static plan model of an inter-sectoral balance includes the following stages:

1) determination of the planned size of ultimate output of the sectors of material production that will satisfy the ultimate requirements of society in consumption and accumulation;

2) determination of the coefficients of current material expenditures on production which should reflect technical progress in the plan period;

3) computer calculation of the coefficients of the total expenditure on the production of one unit of ultimate output;

4) determination of the planned volumes of output of the sectoral products that are essential to ensure the planned volume of ultimate output.

Calculations at the first and second stage of preparation of the inter-sectoral plan balance go on in parallel, and a specific quantitative calculation of all factors determining the sectoral structure of social production is carried out.

The end social product, which is the sum of the ultimate output of the sectors, exceeds the volume of usable

national income by the value of replacement of the write-off and of major repairs of fixed productive assets.

The general volume and basic elements of the ultimate output are calculated in the first stage of working out the national economic plan, when such synthetic indicators of the development of the economy as the volume of the national income and the end social product are determined.

After the general size and basic elements of the end product have been determined it is necessary to calculate its sectoral structure. The consumption fund takes the largest share in the end product. Therefore a calculation of the sectoral structure of the fund for personal consumption is carried out first, for which the following initial data are determined:

- 1) purchases of goods in state and co-operative retail trade;
- 2) purchases of goods in the collective farm market;
- 3) natural consumption;
- 4) consumption of water, gas and electricity by the population.

Indirect methods play a significant role in the planning of the sectoral structure of the fund for personal consumption. Thus, when determining the structure of consumer demand, account must be taken of its dependence on income levels, on relative prices of consumer goods and services, on territorial distribution, sex, age and social composition of the population, etc.

Alongside the calculation of these factors in the planning of the sectoral structure of the fund for personal consumption, especially when working out long-term economic plans, scientifically based norms of nourishment and rational norms of consumption of non-foodstuffs, and norms of provision of the population with various services are beginning to play an ever greater role in the USSR.

Planning of the sectoral structure of the fund for social consumption (material expenditures of sectors in the non-productive sphere of the economy) is based on direct calculations utilising various normative data.

The sectoral structure of the fund for social consumption is calculated for the following non-productive branches of the economy: 1) housing and utilities; 2) passenger transport; 3) communications (servicing the non-pro-

ductive sphere); 4) education and culture; 5) health care; 6) science and scientific services; 7) management.

Planning calculations of the replacement of the write-off and the accumulation of fixed productive and non-productive assets by sectors should reflect the necessity of increasing the share of equipment in capital investments and resolving the problem of constant renewal of the means of production. The most efficient co-ordination of reconstruction of working enterprises and new construction must also be taken into account. At the present stage of capital investment, the share of sectors providing maximum technical progress in the economy is growing.

The sectoral structure of import and export in the plan period is determined by the position of the country in the system of the world division of labour, the co-ordination of economic development plans of socialist countries, and the necessity of raising the efficiency of foreign trade.

The planning of indicators of personal and social consumption is set out in more detail in the next section of the book, and the planning of capital investments in the following chapter.

3. Planning the standard of living of the people

The socialist state, based on the planned organisation of social production, provides a constant rise in the material and cultural standard of living of the people. Growth in the standard of living of the people is the supreme aim of the social and economic policy of the communist and workers' parties of socialist countries.

The growth of the national well-being cannot be identified with the cult of possessions, with acquisitiveness. Socialist society does everything possible to ensure that the growth of material well-being of the workers is accompanied by their cultural growth, and the cultivation of the highest moral qualities in them. Socialist society systematically and purposefully brings its influence to bear on the formation of the needs of the population. Not all existing needs can be acknowledged as reasonable. Striving after excessive luxury, bringing injury to the

physical and moral health of a person, cannot be considered reasonable. Society utilises economic and moral levers to ensure the development of socially significant needs. The socialist state systematically gives encouragement to progressive changes in the structure of popular needs. With the growth of incomes of the population there comes a qualitative improvement in people's diet, the proportion of high-quality, high-calorie produce in it grows, expenditures on the satisfaction of cultural aspirations increase.

The most important directions of raising the national well-being are the planned distribution of the national income, improvement in the pay of factory and office workers, the fixing of retail prices for basic consumer goods and for the most important forms of services for the population, the state financing of social and cultural measures and so on.

In planning the living standard of the people the following basic indicators of national well-being are utilised, grouped in separate sections:

1) *Composite indicators of the standard of living.* The national income, including the consumption fund. Real incomes of factory and office workers per head of the population and for one worker. Average monthly earnings of factory and office workers. Minimum wages of factory and office workers. General volume of consumption by the population of material benefits and services. Length of the working week. Social consumption funds. Indexes of retail prices and tariffs.

2) *Retail commodity circulation.* The volume of retail commodity circulation. The general per capita consumption of the most important foodstuffs and manufactured consumer goods.

3) *Housing and utilities.* The volume of house building, the provision of housing accommodation and the development of public utilities.

4) *Consumer services.* Development of a network and the volume of services of consumer-service enterprises.

5) *Passenger transport and communications.* The volume of passenger turnover according to forms of transport and communication services.

6) *Education and culture.* Numbers taking part in all forms of training, the development of a network of cul-

tural and educational establishments and the volume of their work.

7) *Health care*. Development of a network of health care establishments, number of doctors, etc.

Indicators of the plan for the national living standard are based on the plans for social production. The working out of the plan for the living standard begins with the determination of rates of growth of incomes and consumption by the population of goods and services, which are determined on the basis of a possible increase in the national income and its consumption fund. The sources and structure of incomes of the population are then determined. Basic sources of income of the population are the wages fund and social consumption funds and also incomes from personal subsidiary holdings.

Real income is the basic aggregated indicator of the people's living standard. Real incomes of the population include all monetary incomes and incomes, in kind earned for work, and also all kinds of receipts and benefits obtained by the population from social consumption funds.

The basic part of real incomes consists of the monetary incomes of the population obtained through retail trade and payment for services. Monetary incomes arise from the wages of factory and office workers, monetary revenues from the social economy of collective farms, pensions, allowances, grants and similar incomes. Planning of incomes of the population is connected with various sections of the plan of economic and social development. An increase in the earnings of factory and office workers in the field of material production is directly dependent on growth in the productivity of their labour. Monetary incomes of collective farmers are planned paying due regard to such factors as growth of their output, an increase in its marketability, the movement of prices of farm produce and the distribution of revenue between the collective farm and its members.

When planning the standard of living, indicators of *nominal and real wages* are determined. Nominal wage is the monetary wage. Real wage is expressed in material goods and services and is determined by the quantity of goods and services the worker can in fact obtain for his wage.

An important element in real incomes of the population is incomes in kind, received from collective farms, personal subsidiary holdings, and also from individual holdings. The greater part of this produce is in the form of agricultural produce obtained from personally-owned plots. Calculations of this part of real incomes are in the nature of estimates.

The next element in the incomes of the population is the value of material consumption in the area of social services for the population, that is, in education, health care, social security, places of entertainment, cultural institutions, housing and utilities, passenger transport and communications. Material expenses in this area relate to the consumption of materials, fuel, electricity, low-priced equipment, and also the consumption of foodstuffs in medical and children's establishments.

To determine the size of real incomes payment to the budget, contributions to public and co-operative organisations, increment of monetary savings of all kinds and also part of the outlay for the payment for services in excess of the value of their material content are deducted from the sum total of all monetary incomes and incomes in kind of the population.

Real incomes are planned both for the population as a whole, and for its basic social groups. Which social group a family belongs to is determined according to the occupation of the head of the family. Statistical data, and findings of budgetary investigations of workers' families serve as the foundation for the distribution of real incomes among social groups. The distribution of incomes among groups of the population is carried out according to monetary incomes and separately according to incomes in kind of the population. Monetary incomes are determined on the basis of the balance of monetary incomes and expenditures of the population.

Dividing the total of real incomes by the average annual numbers of the population gives the real incomes per head of population. Movement of real incomes over a number of years is determined taking into account the retail price index. In socialist countries real incomes are constantly growing. In the USSR, for example, they double every fifteen years.

Under socialism differences in the levels and struc-

tures of real incomes of different social groups continue to exist, in particular between factory and office workers on the one hand and collective farmers on the other. These differences, caused chiefly by differences in work, are gradually reducing with the industrialisation of agricultural production and the rising qualifications of workers.

An important source of growth in the standard of living is the *social consumption funds*, which are a part of the overall consumption fund spent by society on education, health care, social security and other social needs. Social consumption funds include material goods and services which the population receive free or on preferential terms, and also monetary additions to wages.

A special feature of these funds is that their distribution is not directly connected with the actual labour contribution of the individual worker.

The necessity for social funds is aroused by the very nature of socialist society itself. Under socialism the enjoyment of certain benefits cannot be made dependent on the labour contribution of people, or on their incomes. This relates to health care, education, physical culture services, etc., benefits which are provided free for all. Social consumption funds are utilised for creating more favourable conditions for the all-round, harmonious development of the individual, for the more complete satisfaction of intellectual, cultural and social needs, and for increasing pensions, allowances and student grants. Thanks to the social consumption funds every citizen of the USSR has the possibility of obtaining an education, including higher education, developing his own capabilities, and practising sport, all free of charge. Social consumption funds are formed from allocations from the state budget, and from the resources of enterprises and trade unions.

The planning of social consumption funds is implemented on the following lines:

- support and education of the rising generation;
- the training of personnel;
- the safeguarding of health and the provision of leisure facilities for the population;
- the support of the aged and disabled members of society;

—social, cultural and community services.

Basic requirements for the planning of social consumption funds are:

1. Correct determination of the requirements of the population for social consumption funds.
2. The ensuring of proportionality in the development of the different types of these funds.
3. Even distribution of the funds over economic regions, towns and villages.

The balance and normative methods are widely utilised in the planning of social consumption funds.

In many developing countries the stage of economic planning reviewed in this chapter is the basic or final phase in the preparation of a plan, supplemented by one or other variant of investment programme. The methods utilised in this are, as a rule, taken from the arsenal of economic development plans worked out in capitalist countries, including different variants of models of growth, multi-sector models, models of the elasticity of demand depending on income level, etc. Formally these methods are similar to the methods reviewed in this chapter, but the differences are above all in the fact that in socialist planning this stage of work is only the start of preparation of a plan. Further work allows the initial rough drafts and calculations to be amplified and even revised. In the majority of developing countries the idea of working out all-embracing plans has not gone further than global projections based on simple econometric models of the Western school. Calculations made on the basis of such models can only be put into practice with the implementation of a whole series of conditions and prerequisites, the chief one being the stability of an overwhelming part of the economic characteristics. If such planning forecasts are not mutually co-ordinated with detailed projections, at least at sectoral level, then the possibility of their practical implementation is considerably reduced.

The class and apologetic character of bourgeois methods lies in the ignoring of the social aspects of development, in the levelling of indicators in the form of overall national characteristics of the plan, without taking into account class and social distinctions. Attempts to allow for social changes in a system of indicators

must inevitably lead to differentiation of the most important parameters of plans in accordance with the different forms of ownership and different levels of technological development. This is important for disclosing the practical possibilities of development of every socioeconomic structure, for determining the place of the state sector in the system of national economic links, and for estimating its influence on the development of other sectors of the economy.

The necessity for such separation of indicators of a plan is particularly seen in the utilisation of a system of balance calculations and inter-sectoral models. Detailed reflection of the social and economic structure of production and of the use of produce in inter-sectoral plan models permits the tracking down of basic connections of state, private national and foreign sectors, which is important and essential for accomplishing the specific tasks of plans and programmes in developing countries. For the efficient distribution of material, labour and financial resources it is essential to have information on the influence of each element of the end product (of state, private national and foreign investments, export and non-productive consumption) on the level of reproduction in the given sector; information on the requirements for labour, capital and imports for each of these elements of the end product; on the requirements for production resources per unit of each component of the end product for the manufacture of specific produce.

Attempts to construct plans on the basis of a system of indicators which take into account the social aspect of the economy have been made in newly-free countries, although on this path they meet many difficulties. This is why the experience of the USSR and other socialist countries in the creation of a system of plan indicators in conditions of a multi-structured economy can give them considerable help.

Chapter VI

PLANNING OF CAPITAL INVESTMENTS

1. The role of capital investment in the development of a socialist economy

Capital investment is the sum total of expenditures on the creation of new fixed assets, and the reconstruction, enlarging and technical re-equipping of existing ones. They include outlays on research and development work and similar forms of preparatory work connected with construction, on building and installation work (the construction of buildings and other structures, the installation of equipment), on the acquisition of machine tools and equipment, transport facilities and stocks.

By means of its investment policy the state can resolve important economic and social problems. Capital investments permit productive capacity to be expanded, new branches of production to be set up, sectoral and territorial structure of production to be changed, the non-productive sphere to be developed and natural and labour resources to be used more rationally. They ensure high rates of economic development of the country and a rise in the standard of living of the population.

Planning of capital investments is a basic lever for changing the distribution of productive forces, and allows the equalisation of the level of economic development over the whole country by directing considerable amounts of capital to be allocated to underdeveloped regions that are rich in natural resources.

The socialist state systematically regulates the process of urbanisation through its investment policy, rationally directing capital investments to the development of large, medium and small towns. In capitalist countries this process goes on uncontrolled.

In conditions of a technical and scientific revolution

the allocation of capital investments, their sectoral structure and their efficiency in the final analysis determine technical progress in the future. Capital investment provides for the technical modernisation and reconstruction of existing enterprises, and creates the material and technical base of socialism and communism.

Capital investment plays an important role in raising the efficiency of all social production, in ensuring proportionality between the productive (industry, agriculture, transport and communications) and the non-productive (health care, education, science, management, housing and utilities) spheres, between raw material and manufacturing sectors. By allocating considerable amounts of capital investment to the most dynamic, progressive sectors of the economy the planning organs strive to improve the structure of social production, which leads to acceleration of rates of economic growth and growth of productive efficiency.

Capital investments, materialised in the fixed productive and non-productive assets, serve as one of the most important indicators of the level of economic development of a country.

The plan of capital investments is the pivot of any national plan. The volume of investments, their structure, and their distribution by sectors and regions have a direct influence on the development plans of all sectors of the economy. The close connection between the capital investment plan and other sections of the plan is explained by the fact that capital investment represents one of the basic factors in the development of the economy. It must be based on financial and material resources, and also on a workforce having the essential qualifications.

The predominance of social ownership of the means of production in socialist countries permits the socialist state to concentrate in its own hands the major part of capital investments and make the best use of them in the interests of the whole of society, in the interests of building socialism and communism. In all socialist countries the volume of capital investment is steadily increasing.

Capital investments, which are increasing year by year, ensure the constant growth of fixed assets and the

*Capital investments in socialist countries
in 1979 (in comparison with 1975 and 1950)*

	1975-100 %	1950-1
Bulgaria	112	18
Hungary	118	7
Vietnam	151*	—
German Democratic Republic	118	14
Cuba	125	—
Mongolia	141	65
Poland	99	12
Romania	148	32
USSR	116	10
Czechoslovakia	113	8

* 1978

improvement of their structure. Thanks to this, high rates of proportional development of socialist countries become possible.

2. Planning the volume and structure of capital investment

The planning of capital investments, in particular, the determination of their volume, their distribution over sectors and regions and the estimate of their efficiency, depends on historical conditions of production, the level of economic development of the country and the tasks set out in the plan. The prevailing social and economic relations, the presence or absence of exploiting classes, and the scale of the state sector have a direct influence on the content of the capital investment plan.

The main demand on the working out of a capital investment plan is that it should provide for the satisfaction of the needs of the economy for expansion of fixed assets with the least possible outlays. Existing production and new construction are considered as a unified whole and capital investment in the development of branches of material production is shared out depending on the planned volume of output. In the first place capital investments are allocated to the reconstruction and technical re-equipping of existing enterprises. Capital for new construction is only allocated if the require-

ments of the economy for the given type of produce cannot be provided for by existing enterprises.

Planning of the *volume and structure* of capital investments begins with an analysis of the corresponding indicators during the previous period. The data obtained provide guidelines for subsequent plans, but cannot be rigid, definitive indicators.

The sum total of capital investment depends on the planned increase in productive capacity and fixed assets in the productive and non-productive sectors; on the size of the national income and its distribution to the accumulation and consumption funds in the plan period; on the capacity of branches of the economy to produce (create) all elements of the fixed assets.

An estimate of the needs of the economy in planned capital investments is arrived at by comparing the needs of society (including personal and social needs) with the level of production already reached and the anticipated input of productive capacity and assets, and also with the possible imports. The difference between social needs and the capacity already reached determines the size of additional capacity.

The volume of requisite capital investments is determined with the help of a calculation of the expenditure on the growth of capacity, i.e., *specific capital investments*. At the given stage of development the investment requirements of socialist countries exceed their possible size, a problem which is even more acute in developing countries. Therefore the required volume of investment has to be collated with its possible volume. The true total of investments depends on the rate of accumulation in the national income, on the total amortisation deductions, the physical structure of the accumulation fund, on the resources of the building and assembly organisations and other factors. The resources of the accumulation fund serve to enlarge production, while amortisation deductions finance the replacement of used-up fixed assets.

In their turn the sizes of the national income and the accumulation fund in the plan period depend to a large extent on the scales, structures and effectiveness of capital investments. Therefore, at the same time as the plan of capital investment is being worked out, re-

peated co-ordination of different volumes of capital investment with the accumulation fund is going on in conformity with the tasks set out in the plan.

At the national economic level the degree of provision of material resources for investment is also taken into account. Material balances, national economic balances, a dynamic model of the inter-sector balance are all utilised for these aims. At sector and enterprise level the requirements of capital construction for material resources are determined on the basis of project cost estimates.

The distribution of capital investments among sectors of the economy and regions of the country is implemented in accordance with the order of priority of fulfilment of the general economic tasks set for the plan period, taking into account the effectiveness of investments in different sectors. However, the effectiveness of investments cannot be the sole criterion of sectoral distribution of investments. An important requirement when planning the structure of capital investment is to ensure the proportional balanced development of the economy.

The basic directions of capital investment are determined on the basis of calculations of a series of alternative (mutually exclusive) variants of the development of the economy. An essential condition is the comparison of the plan indicators with those of the previous period.

When carrying out calculations on the allocation of capital investment to different sectors, wide use is made of macro-models and multi-sectoral models, in particular various modifications of the inter-sectoral balance. The amounts of capital investments must be co-ordinated with the production programme of development of all branches of material production, and also with the planned development of those non-productive branches which ensure a rise in the standard of living.

To establish the volume of capital investments in separate branches of the economy plan balances of productive capacities are worked out. In these balances, available capacity at the start of the plan period is determined, and also the capacity which is required for

the intended growth in output. Growth in volume of production must be gained first and foremost by improving the utilisation of the productive capacity of existing enterprises and the utilisation of all internal reserves. After this the need is established for additional growth in productive capacity through capital investment in the expansion and reconstruction of existing enterprises and the building of new ones. The working out of plan balances of productive capacity for branches, regions and enterprises is an essential prerequisite for the planning of capital investments.

Analysis of the extent of utilisation of the available capacity is extremely important, especially in developing countries. Unused capacity in developing countries has become an almost daily occurrence. If this situation continues then the greater the amount of investment the greater in absolute terms will be the unused capacity. The tasks of planning organs in this connection could be to direct capital investment, in the first place, to those lines of production which hold back the utilisation of capacity already available in other sectors, without a substantial increase in investment.

Long-term building programmes occupy a special place in capital investment plans. Long-term programmes include projects for creating essentially new, large-scale lines of production and sectors, the development of large-scale energy systems and hydro-power stations on large rivers, rail and water transport networks, canals and irrigation systems, plans for the development of large towns and their satellites, etc. The well-thought-out implementation of long-term programmes of capital construction ensures leading positions in modern technological progress.

Long-term programmes are based on scientific forecasts of the development of technology, on master plans for the development and location of sectors and regions, industrial centres, etc. Construction under long-term programmes expands over the course of many years and frequently goes beyond the limits of five-year plan periods, stretching over 10, 15, 20 years and more. In modern conditions planning of the economy is impossible without planning of capital construction, which serves not only current needs, but also prepares a base

for the development of new regions, towns, economic sectors, industrial and agricultural centres.

Long-term programmes of capital investments must be formalised in special documents, which would be the foundation for the preparation of annual and five-year plans. Such documents should have the status of government papers, because enormous expenditures are bound up with them. As an example of a long-term programme one may cite the programme for the construction of the Baikal-Amur Mainline (BAM), which is 5,000 km long, and the economic development of the area.

The working out of *the technological structure of capital investment*, which is worked out for the economy as a whole and by sectors, has an important significance. It is essential for the co-ordination of the capital investment plan with other sections of the national economic plan, and likewise for their economic analysis and efficiency estimates. The technological structure of capital investments represents the relationship of basic forms of expenditure on:

- a) building and installation work, including the cost of work on equipment installation;
- b) equipment of all kinds, implements and tools;
- c) similar capital works, including deep test drilling for oil, gas and thermal waters, and also field studies and project preparation.

The cost of building and installation works comprises material expenditure (including transport and warehousing costs), basic wages, running costs of machines and mechanisms, overheads and planned accumulation.

In the USSR equipment of all kinds, tools and implements are divided into equipment requiring assembly and not requiring assembly, and their cost is determined according to current plan prices. The cost of other capital works includes also the upkeep of the administration, technical supervision, the cost of training personnel, the allotment of land areas and resettlement connected with construction.

The structure of capital investment is not invariable but depends on changes and directions of investment in sectors and structural improvements within sectors. The

most progressive tendency lies in the reduction of the share of construction and assembly works and an increase in the share of equipment.

The calculation of investments according to sectors, their co-ordination with material and labour resources, and also with the capacities of the building and engineering industries, allows the preparation of the whole comprehensive programme for this section of the plan. In general terms the outcome of such work represents the national economic plan of capital investments, which contains both composite indicators of the employment of fixed assets and volumes of work, and indicators for individual large-scale projects. A capital investment plan has a series of sections, the most important of which are:

- 1) the targets for bringing into operation productive capacity and fixed assets over separate sectors, ministries and regions;
- 2) the quotas of capital investment and building and assembly works in individual sectors, ministries and regions;
- 3) the structure of capital investment;
- 4) calculations of surpluses carried forward;
- 5) calculations of specific capital investments and the economic efficiency of planned investments;
- 6) itemised lists of construction works according to separate projects, an enumeration of the most important investment projects.

Itemised lists, representing a nominal roll of building sites and works included in the plan, have great significance in the planning of capital investments. They show the estimated cost of works, the duration of construction, and contain the targets of the plans for the introduction of productive capacity and fixed assets. These lists include only those sites and works which are provided for by project cost estimate documentation, by working drawings and cost estimates of the annual volume of works.

In developing countries the investment programme is a pivotal, basic link in any national plan of economic development. State control of investment is a fundamental lever of state influence on the economy, the most important means of changing the existing propor-

tions. All other sections of the plan (the development of industry, of agriculture, infrastructure, of foreign economic ties) are worked out on the foundation of the investment programme. In some developing countries preparation of plans is confined to the compilation of an investment programme.

An investment programme is a list of projects, confirmed by the government and the legislative authority, which must be built in the plan period, and also the total cost of their implementation with an indication of their sources of finance.

The working out of investment programmes in developing countries is done by various methods, the most widespread of which is the "project" method. The essence of this method lies in the preliminary drafting and selection of the most important investment projects. Their sum total constitutes an investment programme. This method of preparing plans, like any method of planning "from below", has a number of serious shortcomings. It does not permit the planning of changes in the existing proportions, or the proportional development of the national economy.

In a number of countries investment programmes are worked out starting from the tasks of the national development strategy. In this case the gradual and planned achievement of the aims which compose the national strategy is ensured. In countries having considerable experience in the field of national planning, wide use is made of the inter-sectoral balance for investment planning, and also of various economic models.

In capitalist-orientated countries the possibility of planning investment is very restricted because in these countries the basic role in national investment is assigned to private capital and the role of the state consists in setting up favourable conditions for the activity of private capital (foreign or national). Private economic activity does not lend itself to direct state control.

In the plans of socialist-orientated countries state investment forms the basic part of investment expenditure. In these countries the investment activity of the state is directed towards the creation of foundations for the national economy, the strengthening of the state sector and increased employment.

3. Determination of the economic efficiency of capital investment

The fundamental principle in the examination of the economic efficiency of capital investment is the commitment to the national economic approach, which means that the efficiency of investment is determined from the standpoint of society as a whole, and not from that of separate enterprises or sectors. Any decision on the implementation of capital investment must facilitate a rise in the efficiency of the whole of social production.

The efficiency of capital investment is determined by comparing effect (result) and the cost. In determining the efficiency of capital investment, account is taken of the cost and result not only in the enterprise in which the investment is made, but in related sectors also. For example, if the construction of a steel works necessitates the building of new roads and expansion of capacity in power stations, then in determining the efficiency of capital investment in the building of the steel works, it is essential to take into account the related investment in the building of roads and the expansion of electric power capacity. The result of capital investment can be felt not only in the enterprise in which it was made but in other sectors of the economy also. Thus, the building of a hydroelectric station not only leads to an increase in the output of electric energy, but also allows new areas of agricultural land to be irrigated, and gives life to new enterprises in various sectors of the economy.

Commitment to the national economic approach means the obligation to take into account long-term factors. For example, the use of oil as a fuel is profitable from today's standpoint, but if we take into account the future interests of the country, in particular the scantiness and the impossibility of renewal of this natural resource, then it is essential to develop the production and use of other sources of energy such as coal, gas, shale, etc.

To calculate the efficiency of capital investment use is made of two types of indicator: the general (absolute)

economic efficiency and the relative economic efficiency. Indicators of the absolute economic efficiency of capital investment describe the full magnitude of the effect obtained by the economy, sector or region from the given form of investment.

The indicator of absolute economic efficiency of capital investment for the economy as a whole and for sectors of the economy (E_{ne}) is determined by the formula:

$$E_{ne} = \frac{\Delta Y}{C_i},$$

where ΔY is the increment of the annual volume of the national income (pure output) in comparable prices,

and C_i is the capital investment in material production, which has brought about this growth.

This indicator describes the increment of the national income (pure output) per rouble of capital investment. The greater its magnitude the greater the efficiency of capital investment. The directions of capital investment considered may be regarded as expedient for implementation only if the indicators obtained are not lower than the corresponding plan normatives. Plan normatives of the general efficiency of capital investment are differentiated by sectors. In branches of heavy industry, as a rule, plan normatives of lower magnitude are used.

A theoretical example of the calculation of absolute economic efficiency in one sector of the economy follows: the plan envisages the investment of 250 million roubles in the development of the sector as a whole; the volume of pure output grows by 30 million roubles; the plan normative of efficiency of capital investment in this sector equals 0.12; then the indicator of absolute efficiency in this sector will be:

$$E_{ne} = \frac{\Delta Y}{C_i} = \frac{30mRb}{250mRb} = 0,12.$$

It corresponds to the plan normative, adopted in the USSR, therefore the planned volume of capital investment in the sector is economically valid.

To allow for the diverse factors determining the rise or fall of absolute economic efficiency, additional indicators are used, in particular: *output-fixed assets ratio*, i.e., the ratio of the national income produced to the average annual value of fixed productive assets; specific capital investments, i.e., the ratio of the total of capital investments to the annual productive capacity.

The comparison of the increment of the national income with the capital investments which have produced this increment, turns out in practice to be much more complicated than may at first appear. On the one hand the increment of output or of the national income over any period, for example, over one year, must not be ascribed exclusively to the capital investments made over the same period. On the other hand the national income may increase thanks to the better utilisation of existing productive capacity. Therefore, in estimates of the economic efficiency of investments, it is essential to allow for delay in the return from investments in comparison with the period of their implementation, the so-called lag in the effect of investments.

The indicator of absolute efficiency of capital investment in separate enterprises and building works is calculated as the ratio of profits to capital investment by the formula:

$$E = \frac{P - C}{C_e},$$

where C_e is the estimated cost of the project;

P is the value of the projected annual output in wholesale prices of the enterprise;

C is the manufacturing cost of the annual output.

Calculations of relative economic efficiency are used in handling specific economic tasks: the location of enterprises and their complexes, the production and introduction of new technology, the comparison and selection of technical solutions, the determination of the expediency of production of interchangeable products. The use of calculations of relative efficiency does not remove the necessity of estimating the general economic efficiency of the chosen variants.

The indicator of relative efficiency of capital investment is the minimum common expenditure. Common expenditures for each variant are the sum total of current expenditure (manufacturing costs) and capital investments, brought to a common denominator with the help of the normative of relative efficiency:

$$C + E_n C_i \rightarrow \text{minimum,}$$

where C is current expenditure (manufacturing cost for each variant);

C_i —capital investments for that variant;

E_n —normative coefficient of relative efficiency of capital investments (0.12).

Indicators C and C_i can be used both in sum total of capital investment and in the form of specific capital investments per unit of output and its cost.

In the USSR the coefficient of relative efficiency for the national economy is fixed at 0.12, which means that to save 12 kopecks in manufacturing costs, it is essential that not more than one rouble of additional investment be spent. In some cases, for example, for remote regions with a severe climate, a deviation from the set normative coefficient of efficiency is permitted. The reciprocal value of the normative coefficient of comparative efficiency is the *period of recoupment* of capital investments. With a normative coefficient of efficiency equal to 0.12, the corresponding period of recoupment of the investment is approximately 8 years.

Let us take an example of the determination of the best variant for the building of an enterprise for the production of the same volume of similar output: in the first variant the manufacturing costs of the annual output amount to 1.2 million roubles, in the second variant one million roubles. Capital investment for the first variant amounts to 20 millions and for the second 24 millions.

Consequently, the common expenditure (when $E_n = 0.12$) in the first variant amounts to $1.2 + 0.12 \times 20 = 3.6\text{m}$ roubles, and in the second $1.0 + 0.12 \times 24 = 3.88\text{m}$ roubles. Obviously the first variant is economically more efficient as it requires less total expenditure.

The time factor is also taken into account when determining the relative economic efficiency of capital in-

vestments. If, in the variants compared, capital investments are made over different periods and current expenditures change over time, then these expenditures must be brought up to date (discounted) by the application of the discount rate:

$$B = \frac{I}{(I + E_{nr})^t},$$

where B is the coefficient of reduction;

t is the period of time of reduction, in years;

E_{nr} is the normative for reduction, which equals 0.08 in the USSR.

For example, let us examine two variants of construction of one enterprise at a cost of 20 million roubles. Variant I provides for building to start in 1980, whilst the second, in 1983. Let us suppose that construction is completed in one year. Then in order to compare the economic efficiency of these variants it is essential to discount the capital investments of Variant II to 1980. In this instance they constitute 16 million roubles

$$\left(\frac{20}{(1 + 0.08)^3} \right).$$

The economic efficiency of capital investment is determined by a whole series of factors. The concentration of capital investment, material and labour resources on projects nearing completion and key national economic projects leads to a reduction in construction periods and, consequently, to growth of the efficiency of capital investments and of social production as a whole. Improving the structure of capital investment, and increasing the proportion of resources applied to the development of advanced sectors, and to the reconstruction of enterprises, creates possibilities for the acceleration of technical progress and an increase in the productivity of social labour. In the final analysis, growth in the efficiency of capital investment is reflected in growth in the efficiency of all social production.

The problem of increasing the efficiency of investment is also very pressing for developing countries, in which, at the present time, a reliable system of determining the efficiency of investment, appropriate to the specific conditions of these countries, has not yet been

worked out. Indicators of investment efficiency applied in a number of developing countries have been borrowed from the practice of industrialised capitalist countries. In the determination of investment efficiency two approaches are utilised in developing countries: from the point of view of a single enterprise and from the point of view of the whole of society.

The most widespread indicators of investment efficiency from the point of view of a single enterprise are: 1) discounted total effect; 2) internal rate of return; 3) the period of recoupment of the investment.

The discounted total effect is the difference between receipts and expenditures (capital and current), connected with the construction and commissioning of the analysed project, calculated over the whole service life of the project. The internal rate of return represents, as it were, the rate of interest from which the investor, borrowing the whole of the necessary capital to build the enterprise, will neither suffer any loss nor receive any return over the whole working life of the enterprise. If the internal rate of return exceeds the rate of interest, then the given project is considered profitable, if it is less, then the project is rejected.

A common drawback of both indicators is their orientation towards obtaining maximum profits. Such an approach flows logically from the very nature of capitalist relations of production, but is little suited to developing countries.

Of course, the problem of financial return on investment is a pressing one for developing countries too. But together with this, the necessity to implement deep structural changes in the economies of developing countries, to lay the foundations of national industry, to develop the state sector, increase employment and accelerate the development of backward regions acquires even more importance.

Bourgeois economists reduce the whole problem of determining the economic efficiency of investment in developing countries chiefly to the selection of prices. Basing themselves on the investment theory of bourgeois political economy on the limited productivity of factors of production they propose replacing real market prices with "shadow", national prices,

"Social benefit-cost analysis", now preached by many Western economists, is based on the use of "shadow prices". Various methods of establishing estimated prices have been proposed, but in all cases the price is divorced from its objective base of socially necessary expenditure. It is extremely difficult to implement the decision reached with the aid of estimated prices, insofar as they do not correspond to the real market situation.

In practice, prices prevailing in the world capitalist market are frequently used as "shadow prices". The use of world capitalist market prices for the analysis of the efficiency of investment projects conceals within itself the threat of perpetuating the technical and economic backwardness of developing countries, as they orientate the developing countries exclusively towards the development of those products which are able to withstand competition from the imperialist monopolies.

Progressive economists in developing countries have great doubts about the methods of cost-benefit analysis worked out in the West. Acknowledging some positive aspects in this analysis, they strive to work out such a method that would correspond to the specific conditions of each developing country, and in this the theoretical study of the relevant experience of socialist countries can be of great assistance.

Chapter VII

PLANNING SECTORAL DEVELOPMENT

After general plan calculations of rates of economic development and the structure of production have been completed and the requisite volume and structure of consumption and capital investments have been estimated, there comes the possibility of working out a detailed plan for the development of separate sectors of the economy. All the previous stages of work allow the formulation of requirements (targets) for each sector and the determination of the basic kinds of resources and their volume which will ensure the fulfilment of the concrete tasks of each sector.

The procedure for preparing a sectoral development plan includes several stages. Firstly, the needs of the economy for the goods (or services) of the given sector are determined; secondly, the possibilities of the given sector are estimated from the point of view of the available productive capacity, labour resources and the qualifications of personnel, and the provision of raw materials, energy and fuel. Then the necessary increase in production is determined, both from the utilisation of available internal reserves, and by way of reconstruction and new building, and also the training of an additional contingent of production and other personnel.

1. Planning industrial production

Industry is a key branch of the economy, and plays a decisive role in carrying out technical re-equipment of production, in satisfying the needs of the economy and the population for high-quality goods. Industry determines, to a large extent, the level of economic development

of a country. It is in industry that such tools, equipment and materials are created as will determine technical progress and labour productivity in all sectors of the economy. Industry produces the larger part of articles of consumption.

The chief task of industrial planning under socialism is the enlargement and improvement of industrial bases for the economy, and the fullest possible satisfaction of the needs of the population, raising the technological level and efficiency of production, and improving the quality of output.

An industrial production plan is a co-ordinated comprehensive plan for the development of a particular sector. It describes in detail all aspects of economic activity of industry and allows it to be linked to the development of the whole economy. Such a plan consists of several sections: a plan of production and sale of products in value and natural expressions, a plan for the introduction of new technology, a capital construction plan, a labour and wages plan, a plan for material and technical provision, a financial plan etc.

To solve especially complex problems, having intersectoral significance, the USSR includes in its five-year plans specific programmes laying down the sequence and directions of the solution to these problems. As an example of such a programme we may cite the programme for the development of a fuel and energy complex for sectors, and the creation of territorial production complexes. A territorial production complex represents the aggregate of several types of production or enterprises having wide production connections among themselves and situated in one territorial region.

When planning industrial production paramount attention is given to the quickest possible introduction of the results of scientific research. Industrial production plans orientate enterprises towards the utilisation of techniques and technology which are new in principle.

An industrial production plan is worked out for industry as a whole and for its separate sectors. A sector of industry is formed as an aggregate of enterprises producing similar output. Modern industry has several hundred sectors and sub-sectors. An industrial production plan is also worked out in territorial terms.

In the USSR five-year plan industrial ministries and departments are given the following basic indicators: growth of production of goods of the highest quality; growth of productivity of labour; normative wage per rouble of output; quota of factory and office workers; sum total of profit; the commissioning of fixed assets and productive capacity; quotas of state capital investment; basic targets for the fulfilment of the scientific and technical programmes for the preparation, mastery and introduction of new, highly efficient production processes and types of produce; volume of deliveries of basic kinds of material and technical resources necessary for the fulfilment of the five-year plan.

In annual economic and social development plans a limited number of indicators is established by the industrial ministry, as the annual plans are prepared on the basis of the firm targets of the five-year plans. Annual plans contain the targets for the production of goods in natural expression according to a more expanded nomenclature than in the five-year plan; for bringing into use fixed assets and productive capacity; for payments to the state budget and allocations from the state budget; for the volume of deliveries of material and technical resources necessary for the fulfilment of the annual plan.

Planning of production in natural expression. An industrial production plan in natural expression permits the implementation of balanced co-ordination of production and the needs of the economy for the given type of output, and the setting up of physical inter-sectoral and intra-sectoral proportions.

The national economic plan includes: output, the production of which determines the main directions, rates and proportions of social production; the most important types of articles of consumption, determining the standard of living of the population; output of which the production and consumption accelerates scientific and technical progress and ensures great economy in outlay of social labour.

Working out a plan for industrial production begins with the determination of the needs of the economy and the population for specific products in the plan period. In the determination of the national economy's require-

ments for separate kinds of industrial products, the needs of productive and non-productive consumption, export, market stocks and the accumulation of reserves are all taken into account.

The requirements of the economy and population for industrial products are determined by the ministries producing the basic part of the given product. In calculations of requirements for multi-purpose industrial output which is in very high demand, the possibility of replacing it with other items is taken into account. Special attention is given to the possibility of comprehensive utilisation of raw and other materials, and also to the secondary utilisation of resources (waste paper, ferrous and non-ferrous metals etc.).

The industrial production plan is worked out on the basis of known requirements, taking into account the peculiarities of each sector of industry. Co-ordination of requirements and production is brought about with the help of material balances, which in the USSR are worked out by the central planning organ, Gosplan, and the ministries.

Plans for industrial production are carefully based on calculations of productive capacity, material, labour and financial resources. The most important element of the technical and economic foundation of the industrial production plan is the calculation of the utilisation of productive capacity.

Under the term *productive capacity* of an industrial enterprise is understood the maximum possible output per unit of time (year, month, day) with full utilisation of equipment and the adoption of the most advanced methods of organisation of labour and production.

The size of productive capacity is not unchangeable. It depends on changes in the technical and organisational level of production. Therefore it is essential to reassess the productive capacity of an enterprise from time to time.

Productive capacity is calculated in the same units of measurement in which output is **planned**. In some enterprises (oil refineries, sugar refineries) productive capacity is determined in units of measurement of treated raw material. For example, productive capacity of a mine is defined in tonnes of coal mined, a footwear factory in

thousands (millions) of pairs of boots or shoes made, an oil refinery in tonnes of processed oil etc. If a factory produces several kinds of products, its productive capacity may be characterised by several physical indicators. Productive capacity of enterprises is determined according to the capacity of the key production workshops, aggregates or sections. In this all equipment attached to the enterprise, both working and idling, is taken into account.

Productive capacity of a sector is defined as the total productive capacity responsible for the production of the same type of output by the separate enterprises belonging to the same sector. Planning organs calculate the projected volumes of production on the basis of a *balance of productive capacity*. This balance allows the co-ordination of the planned volume of output with the productive capacities and the indicators of their utilisation; the most rational directions of capital investments are similarly determined with the help of the balance.

In the balance of productive capacity of a sector the capacities are shown for the start of the plan period (entry capacity) and their increase over the plan period from various sources, the reduction of productive capacity through the write-off of used-up fixed assets and productive capacities at the end of the plan period (exit capacity). The balance also shows the average annual capacity which is equal to half the sum of the entry and exit capacities.

*Model Scheme of a Balance of Productive Capacity
for the Production of Cement (thous. tonnes)*

No.	Indicators	Plan
1.	Capacity at the beginning of year	510
2.	Increase in capacity	45
3.	Written-off capacity	15
4.	Capacity at end of year	540
5.	Average annual capacity (No. 1 + No. 4) ÷ 2	525
6.	Coefficient of utilisation of average annual capacity (No. 7 ÷ No. 5)	0.9
7.	Output (No. 5 × No. 6)	472.5

Improvement in the utilisation of productive capacity is brought about through smoother functioning of the en-

terprise, the elimination of forced idleness of equipment, modernisation of equipment, a rise in the qualifications of workers, the development of specialisation and co-operation in production.

Plans of socialist countries are oriented towards an improvement in the quality of output and growth in the efficiency of production. To ensure a constant and systematic improvement in the quality of output, the plan for industrial production contains a special section—*planning the quality of output*.

The quality of output is the totality of its properties characterising its purpose, special features, usefulness and ability to satisfy particular needs of society. The quality of industrial output must satisfy the most modern requirements. It depends on many factors: the qualifications of personnel, quality of initial raw material, the level of development of science and technology, in particular the available techniques, technology and organisation of production. A rise in the quality of output represents one of the sources of growth of productivity of labour and the satisfaction of popular demand for consumer goods. An improvement in the quality of goods is tantamount to additional output. The problem of increasing the quality of output relates not only to already familiar types of goods; it is much wider. It is essential to renew output regularly and systematically, taking into account the achievements of scientific and technical progress and the constantly growing needs of society.

Standards and technical conditions form a lever for the systematic quality control of industrial output. Standards lay down a set of rules obligatory for all, model norms of quality, the technical level of the product, its reliability, durability, and aesthetic design taking into account the highest scientific and technical achievements and the demands of the population. In the USSR the following categories of standards are used: USSR state standards (GOST), sectoral standards, and republic standards of associations and enterprises. The demands made on quality of the output produced in small quantities and on new products are formulated in technical conditions.

Existing standards are periodically reviewed, bearing in mind changes in the needs of the economy and the achievements of science and technology. Raised demands for

the technical level and quality of output are laid down in new standards. The national economic plan contains tasks for working out and finalising standards.

Planning the quality of industrial output is implemented on the basis of a comprehensive approach. For instance, in order to improve the quality of footwear produced, we cannot limit ourselves to measures which only affect the footwear industry. The whole long technological chain connected with the production of the given goods must be the object of planning. The quality of leathers supplied to the industry, the dyes, accessories and equipment all affect the quality of footwear. Therefore a plan to improve the quality of footwear must include measures to improve livestock breeding in agricultural enterprises, to improve the dressing and preparation of leathers and hides in meat-packing factories and tanneries, to raise the quality of equipment supplied to footwear enterprises by machine-building factories, to improve technology and organisation of labour in the industry, and many others.

In the USSR, planning the quality of industrial output is implemented on the basis of its certification and assignment to one of three categories of quality: second, first and top. Those products whose technical and economic indicators correspond to, or surpass, the best models of similar domestic and foreign goods are assigned to the top category. These products are awarded the State Mark of Excellence. There is an increase in the wholesale price of such products for their quality. The greater part of the additional profits earned by enterprises from the sale of goods with the Mark of Excellence goes to the economic incentive funds.

Products which answer the state requirements and satisfy the needs of the economy and the population are assigned to the first category. Output of second-class quality is produce that does not correspond to modern requirements of the economy and the population. Such produce is liable to be discontinued. For second-quality products the wholesale price is discounted by 50-100 per cent of the total profit obtained from its sale, which discourages the enterprise from its production. Standards and technical conditions for such produce are subject to review.

Planning of output in value expression. On the basis

of indicators of output in natural terms plan indicators for the general volume of industrial production in a value expression are determined. Value indicators are used for planning rates and proportions of development of social production, the calculation of national income, the productivity of labour and indicators of efficiency.

In practice, industrial planning makes use of a series of value indicators of production for various purposes: gross output, marketable output, feasible output, normative pure output. Gross and marketable output are calculated indicators. Gross output is measured in comparable (constant) prices and describes the physical volume, dynamics and rates of growth of output over the industry as a whole and for separate sectors. The indicator of marketable output is calculated in existing (current) prices. This indicator characterises the volume of output coming into the national economic turnover.

Indicators of the industrial production plan must be co-ordinated with all the other sections of the national economic plan. If, for example, agriculture cannot ensure the requisite deliveries of raw material to industry, then the actual output turns out to be lower than was stipulated in the industrial plan. The planned volume of output must be ensured by productive capacity, material and labour resources.

The industrial development plan also provides for measures to protect the environment, and for rational use of natural resources. For these purposes capital investments are laid out on building purifying equipment, the introduction of progressive technology providing for the complex treatment of raw materials, the reduction of losses and waste of production, and the use of water in a closed cycle. Ways and methods are systematically worked out for the drive against the discharge of dangerous substances into the atmosphere and also against industrial noise, vibration and the effects of electrical and magnetic fields.

Planning of specialisation, co-operation and industrial combination of production. Specialisation of production is a form of social division of labour. It is expressed in the isolation of individual lines of production, the formation of new sectors and enterprises with a restricted assortment and increased uniformity of output. The following forms of specialisation are adopted in industry:

1) *product*, when an enterprise specialises in the manufacture of a single type of product (motor vehicles, machine tools, refrigerators etc.);

2) *detail*, when an enterprise specialises in the production of separate parts, assemblies, and details (bolts, tools, gears, bearings etc.);

3) *technological*, when an enterprise specialises in specific technical processes (welding, spinning, weaving etc.).

In modern conditions detail specialisation ensures the highest economic efficiency. It allows optimum output of parts and sub-assemblies to be achieved, advanced technology to be utilised, the productivity of labour to be significantly raised and the manufacturing cost of the finished product to be reduced on the basis of concentrated production.

Plans for specialised production provide for increased output by specialised enterprises, the avoidance of irrational duplication of the same product by different enterprises, and the concentration of similar products in the appropriate sectors of industry. When deciding on the specialisation of an enterprise on the production of a particular item, national interests are given top priority, and the variants of production in each enterprise are carefully compared. In specialised enterprises production costs must be kept to a minimum and the quality of the product should be of the highest.

The planning of specialised production has particular importance for mechanical engineering, which manufactures such a wide range of goods. Alongside specialisation of production on the national scale international specialisation is also developing between socialist countries.

The most important plan *indicator of the development of specialised production* is the ratio of output of the product by specialised factories and workshops to the total volume of output by all the enterprises in the given sector. Provision is also made for the development of specialised production in the form of concentration of output of the most important kinds of machinery, equipment and other items in particular enterprises.

Plan measures for specialised production are based on indicators of economic efficiency. Specialised production

leads to a lowering of production costs in the sector. However, as a result of the concentration of production, there is, as a rule, an increase in the average ferrying distance of the specialised product and transport costs rise.

Economy in total economic expenditure (production and transport costs) in the consumption area serves as a basic criterion for determining the expedient scale of specialised production. Savings in current expenditure expected from the intended specialisation are defined as the difference in expenditure before and after the introduction of specialisation by the formula:

$$S = [(C_1 + T_1) - (C_2 + T_2)] \times B,$$

where S is the annual saving in current expenditure as a result of the introduction of specialisation;

C_1 and C_2 are the manufacturing costs of one unit of output before and after the introduction of specialisation;

T_1 and T_2 are transport costs for the delivery of one unit of the finished product to the consumer before and after specialisation;

B is the annual volume of output after the introduction of specialisation.

Here is an example of the calculation of annual saving in current expenditure as a result of the introduction of specialised production.

As a result of specialisation the cost of one unit of output is reduced from 5 to 4.5 roubles. However, in connection with the increase in average ferrying distance transport costs increase from 0.4 to 0.7 roubles per unit of finished product. After the introduction of specialisation the annual output is 100,000 units.

In the given example the annual saving in current expenditure as a result of specialisation is 20,000 roubles:

$$[(5.0 + 0.4) - (4.5 + 0.7)] \times 100,000.$$

If each enterprise specialises in the manufacture of a particular component or in carrying out specific types of work, then how can a motor car, a television set or other complicated industrial item be produced? The answer is that enterprises must *co-operate* in the production of the finished article. Working in accordance with the state plan each plant knows beforehand which particular parts or assemblies it must prepare and in what quantity, when

and to whom it must deliver them. Specialisation plans are co-ordinated with the tasks for co-operative deliveries.

In a number of sectors of industry—chemical, metallurgical, oil, gas etc.—the most progressive form of organisation of production is *the combine*. Combines are set up to make comprehensive use of raw and other materials and energy resources and to convert industrial waste products to a form required by the economy. Combines have a continuous production process and a shorter production cycle. For example, in a metallurgical combine cast iron is produced from iron ore, steel is then poured from cast iron, and then rolled steel is made. The gases which form during the production of steel can be utilised as a valuable raw material for the chemical industry, and slag provides a durable, cheap and convenient building material.

In the plans of developing countries there is also a separate section entitled "Industrial Planning". Emphasis in this section is primarily laid on the necessity for the industrialisation of the country and, to a lesser extent, on the state regulation of industrial production. In their economic activities industrial undertakings, including state enterprises, are chiefly orientated towards the market situation and not to the tasks of the state plan. In these countries the national plan has not yet been transformed into a working mechanism for controlling industrial production.

2. Planning agricultural production

Agriculture is the key branch of production providing the population with food and industry with raw materials. At the same time agriculture is a large-scale consumer of industrial products and the output of other sectors of the economy.

The special features of agricultural planning in socialist countries are bound up with the organic combination in this sector of two kinds of ownership: state (belonging to the whole people) and collective-farm and co-operative. Therefore, the socialist state, along with centralised planning guidance, makes wide use of indirect methods of influencing the development of agricultural production.

In agricultural planning account must also be taken of the specific technical and economic character of production and the great dependence of the sector on weather, soil and climatic conditions.

In the five-year and annual plans of the USSR the most important indicators of development of agriculture and its separate branches are designated: rates of growth of gross output, the volume of state purchases of basic agricultural produce, the volumes of capital investment and of deliveries to agricultural machinery and fertilisers, measures for strengthening the fodder base of animal husbandry, land improvement and other works.

The agricultural development plan is an indispensable component of the national economic plan, closely tied to other sections of the plan. Above all else this concerns the plan for the development of the light, food, meat and dairy industries, the plans for trade turnover, freight traffic and foreign trade. The planned volume of agricultural production must be balanced with the country's transport possibilities, with the development and distribution of grain elevators, fruit and vegetable warehouses, refrigeration capacity, and the capacity of the processing industry. The growth envisaged in the plans must be based on specific calculations. An increase of production in this sector is provided for by additional capital investment, the improvement of the technical and material base, and the improvement of organisation of agricultural production and other measures.

With the help of the balance method calculations of the most efficient intra-industry proportions and connections and of the best ratios between the development of animal husbandry and crop growing are made. The siting of agricultural production is subordinate to the task of increasing the output of produce essential to society with the minimum expenditure of social labour.

Planning state purchases of agricultural produce. Beginning with the eleventh five-year plan the development of agriculture in the USSR is planned within the framework of an agro-industrial complex (AIC). The structure of the complex is quite complicated, its raw material nucleus being agriculture. Agricultural machine-building, the production of chemical fertilisers and pesticides, the mixed-fodder and microbiological industries, sectors pro-

viding production services to agriculture (technical repairs, building etc.), sectors of industry processing agricultural raw materials, the storage, transportation, procurement and sale of agricultural produce, agricultural science and the training of personnel all belong to the agro-industrial complex.

Socialism provides the possibility of forming an agro-industrial complex in a systematic way, gradually optimising its structure. The decisions of the 26th Congress of the CPSU emphasise that the basic task of the agro-industrial complex is the reliable provisioning of the country with foodstuffs and agricultural raw materials. In the USSR state plans lay down only one indicator which is mandatory for farms, and that is the indicator of the *volume of state purchases of agricultural produce*, which is the main indicator of the agricultural development plan.

Agricultural enterprises, starting from the obligation of fulfilling this task, themselves determine what crops they will grow and what areas they will cultivate, what cattle and in what quantities they will maintain. The indirect influence of the state is effected through such instruments as the establishment of purchase prices, the granting of credit, control of capital investment, the sale of technical equipment, mineral fertilisers, chemical weed-killers, the implementation of irrigation and land improvement schemes and so on.

Target figures for state purchases are essential to ensure a regular supply of foodstuffs for the population and raw material for industry, and to establish state reserves. These purchases are the basic form in which the marketable produce of agricultural enterprises is disposed of. The system of state purchases and the mechanism for selling industrial products (in particular technical equipment) to agriculture reveal economic connections in the sphere of production and exchange between industry and agriculture, between town and country, and between the working class and the peasantry.

The state purchasing system guarantees the sale of marketable produce of agricultural enterprises at stable purchase prices, and herein is the great advantage of the socialist planned system of farming. Agricultural enterprises in the USSR are given a firm, stable plan of purchases over the five-year period broken down into years.

When determining the volume of purchases the special features of each farm must be considered, its specialisation, its own needs for seed, fodder and insurance funds, soil and climatic conditions, and the necessity of satisfying the personal needs of the peasants. The state purchasing plan must be co-ordinated with the measures planned for the specialisation of farms, since specialisation ensures maximum growth of output with minimum expenditure of social labour.

Directing their attention towards stable planned targets, set for a number of years, collective and state farms can confidently carry on social production and plan the development of animal husbandry and crop growing on an economically sound basis. With the aim of stimulating the economic interest of agricultural enterprises in increasing production to the maximum and overfulfilling the plan tasks, higher prices are established for produce sold over and above the state purchasing plan.

To provide a sound basis for planned volumes of purchases, use is made of balances of production and distribution of agricultural produce, divided into two groups:

1. Balances of produce sold almost entirely to the state (cotton, tobacco, wool etc.) For these products the balances of production and sale basically coincide.

2. Balances of produce, a considerable part of which is consumed on the farms themselves, either as means of production, or as articles of consumption (potatoes, grain, meat, milk etc.). Determination of the size of this internal consumption has great significance in the working out of these balances. The volume of internal consumption is worked out starting from scientifically based normatives of expenditure. For example, with a normative expenditure of seed per hectare of ploughed land at 0.2 tonnes and the sown area being 100,000 hectares, the requirement for seed grain will be 20,000 tonnes ($0.2 \text{ tonnes} \times 100,000 \text{ hectares}$).

Planning the output of crop growing. Agriculture consists of two basic branches, animal husbandry and crop growing. *The basic indicator determining the scale and rate of development of crop growing is the gross yield of produce*, which is planned in physical terms for each crop. It is determined by multiplying the yield of each crop by the sown area.

The main direction for increasing output of produce from crop growing is growth in the yield of agricultural crops. The yield from each crop is planned on the basis of an analysis of the actual yield over several previous years, taking into account planned measures to increase the yield from each hectare. Growth of yield provided for in the plan is assured by the necessary agronomic and organisational measures. Increased yield is obtained by the use of organic and mineral fertilisers, high-yield seed, efficient crop rotation and optimal times for farming work. The material interest of the workers in the results of production is also of great importance.

Land is the chief means of production in agriculture, and, as distinct from other means of production (machinery, equipment), does not wear out. Nevertheless, if the essential farming measures are not carried out, it will become exhausted. Measures to increase soil fertility and the productivity of hayfields and pastures, and to prevent water and wind erosion are provided for in the plan.

The area to be sown under each crop is determined with the help of the indicator of land usage, which means the amount of ploughed land needed to produce one unit of produce, which is calculated on the basis of crop yield. The indicator of land usage is the reciprocal value of the yield of agricultural crops. For example with the yield of rice at 2 tonnes per hectare this indicator equals 0.5 hectares of ploughed land. In this instance to produce 1 tonne of rice requires 0.5 hectares of land. For the plan period the indicator of land usage for the production of one unit of produce from crop growing is established taking into account the growth in crop yield during the plan period. If the plan sets the task of raising the yield of rice to 2.5 tonnes and the volume of purchases (gross yield) to 100,000 tonnes, then 40,000 hectares would have to be put under rice. In this case the indicator of land usage per unit of produce is 0.4 hectares ($1 \div 2.5$ tonnes), and the sown area is determined by multiplying this indicator by the volume of purchases (yield) of rice: $0.4 \text{ hectares} \times 100,000 \text{ tonnes} = 40,000 \text{ hectares}$.

Planning the output of animal husbandry. When working out the plan for this sector the needs of the economy for each kind of product of the sector are studied together

with future growth in production, the availability of the necessary forage resources and material and technical facilities.

The most important indicator of the production plan for the products of animal husbandry is the gross output of produce, which includes the breeding of cattle and poultry in live weight, the production of meat in dead weight, which is converted from live weight according to special coefficients, and the production of milk, eggs, wool and raw hides.

The volume of output of animal husbandry produce depends on the productivity of stock-raising and the size of the herd of the particular type of cattle. The level of livestock is determined by the quality of feed, the pedigree qualities of cattle and poultry, and the conditions under which they are being raised. Measures are provided for in the plan to increase the genetic productive qualities of cattle, to improve the feeding base of stock-raising and to introduce mechanisation of the labour processes.

Determination of the productivity of animal husbandry is done according to types of cattle. Milk production is calculated on the average annual numbers of cows and the average yield from one animal. The production of wool is determined on the basis of the number of sheep and the average clip from one sheep. The output of eggs is calculated according to the average annual number of laying hens and their average egg production.

The volume of output of cattle farming products is determined with the help of the balance of turnover of the herd for each type of animal. It shows the increase in the numbers of cattle through natural reproduction, the average annual numbers and the structure of the herd.

Growth in output in this sector depends to an enormous extent on the feeding base, on the correct balancing of basic nourishing and health-giving components of the feedstuffs. The requirement in feedstuffs is calculated according to norms (in feed units) per unit of product, and also according to the type of fodder: coarse, succulent, pasturage etc. Then the requirement for fodder (in feed units) is translated into natural indicators according to the co-efficient of food value of each kind of fodder. For example, 1 kg of silage contains 0.16 kg of feed units. If the plan requirements in feed units for this kind of

fodder are 70,000 tonnes then 437,500 tonnes of silage will have to be prepared (70,000 tonnes \div 0.16).

In addition to calculations of the requirements in feed units and in kind, the requirement for digestible protein is also determined according to norms of the requisite content of protein in feedstuffs per feed unit as applied to different kinds of cattle and poultry.

In addition to the total demand for fodder, in order to ensure the planned output of cattle-farming produce, emergency reserves of fodder in case of unfavourable weather conditions are set up. As a rule emergency reserves of concentrated, coarse and succulent fodders provide for one month's requirements.

When planning sources to meet the demand for fodder, measures are planned to improve the structure of cultivated land and to increase the yield of fodder crops. The plan also provides for the sale to farms of mixed fodder made from state resources of raw material, albuminous vitamin additives etc.

Along with the increased output of fodder, plans lay down measures for improving its utilisation, reducing losses, improving the content of rations and their protein, vitamin and amino-acid values. The absence or insufficiency of the essential components of fodder leads to its over-expenditure.

Planning the material and technical basis of agriculture. The major condition for the development of agriculture is its *planned mechanisation, electrification and material and technical supplies*. The chief task in the planning of agricultural *mechanisation* is the provisioning of this sector with modern technology, allowing the whole complex of agricultural work to be mechanised. For this purpose in the USSR provision is being made for the development for each climatic zone of the country of a system of machines, which will allow the complete mechanisation of the cultivation and harvesting of basic agricultural crops and the work of animal husbandry. The increase in productivity of labour depends on this. To provide a sound foundation for the agricultural mechanisation plan, balances of tractors and other items of agricultural machinery are worked out. The demand for tractors and agricultural machinery is determined, proceeding from the amount of work at the most intensive periods

(pre-sowing preparation of the land, sowing, harvesting), the length of time they take, the output per shift, the daily and seasonal output.

The plan for agricultural *electrification* proceeds from the tasks of all-round electrification of agricultural production. Collective and state farms obtain electric power from the state power grids and electricity stations. The requirement in electric power for the needs of agricultural production is determined for the plan period according to norms confirmed by the Ministry of Agriculture.

The quantity of *material and technical equipment* for collective and state farms (transport, earth-moving and land-improvement machinery, machine tools and equipment for repair workshops, oil products, building materials etc.) is determined starting from their own available means and the volume of jobs to be carried out in the plan period. In case of necessity, collective and state farms receive assistance from the state in the form of financial credits.

In planning agricultural production the main attention is paid to consistent *intensification* of production. For this, in particular, the plan provides for a constant rise in the economic fertility of the soil through the use of chemicals in agriculture. Successful accomplishment of this task depends above all else on the quantity, quality and content of mineral fertilisers, herbicides, chemical weed-killers and other substances for the chemical protection of vegetation that are produced within the country.

At the present stage of economic development in socialist countries the volume of capital investment in the agro-industrial complex, which includes agriculture, transport, warehousing, the industry for processing agricultural produce and agricultural machine-building, is consistently increasing. Simultaneously ever growing attention is being paid to the problems of increasing the efficiency of agricultural production.

Agriculture is the key branch of the economies of developing countries. In many African countries the proportion of agriculture in the gross national product reaches 50 per cent and more, and it employs a considerable proportion of the population. The rate of economic growth, receipts from exports, the balance of payments and the

standard of living of the population of these countries all depend to a decisive extent on the state of agricultural production. Agriculture is one of the most important sources of accumulation and financing of national development plans.

However, in the plans of different developing countries agriculture is not given identical attention. In first-generation plans of the majority of African countries agriculture was assigned to a secondary role. In later plans, as a result of the exacerbation of the food crisis on the African continent, more attention is being paid to the development of agriculture. In a number of countries an increase in agricultural production is regarded as a primary task. Industrial development is more closely co-ordinated with plans for agricultural development.

The experience of the independent countries of Asia, Africa and Latin America has demonstrated that success in industrial development may be cancelled out by a backward agriculture. Fast growth of population, urbanisation and the growth of monetary incomes lead to an increased demand for food, whilst at the same time the existing structure of production relations in the countryside cannot meet the increased demand. As a result, the developing countries are forced to increase the import of food, diverting resources from industrialisation.

An essential condition for the increase of agricultural production in developing countries is the implementation of profound agrarian reforms. However, the solution of this problem is planned in different ways, depending on the course of socio-political development chosen by the country. In countries with a capitalist orientation their planning is directed towards the propagation of capitalist production relations in agriculture and the attraction of foreign capital. However, foreign private capital goes primarily to the export sector, to plantation farming, and the production of food does not increase.

In the national plans of socialist-oriented countries provision is made for the implementation of progressive agrarian reforms, for the creation of co-operatives and state farms. The carrying out of agrarian reforms in socialist-oriented countries progresses in conditions of acute class struggle. The rural rich try with all their might to discredit the agrarian reforms, resort to economic sabo-

tage or cut down production. All this complicates the fulfilment of the tasks laid down for increasing agricultural production.

Successful completion of structural reforms in socialist-oriented countries objectively broadens the scale of planned control of production, including that of agriculture. Another essential condition for successful development of agriculture is the working out of measures for its indirect control. The transformation of this branch into a modern commercial sector, the establishment of rational proportions in the development of various sub-sectors of agriculture, economic stimulation of the production of goods needed by society and the strengthening of the material and technical base of agriculture are among the tasks facing the planners of agricultural production.

3. Transport planning

Contents of a transport development plan. Transport plays a very important role in the process of social reproduction. The ferrying of goods does not in itself create direct material benefits, but without it the normal production process is impossible. Material benefits are created by the labour of workers and peasants in industry, agriculture and other branches of material production. Nevertheless, the products of labour are ready for use and consumption only when they have been delivered to the place of consumption.

The quantity of goods in physical terms does not increase as a result of transportation, but transportation continues and completes the production process. Transportation requires certain expenses, therefore the cost of the product grows as a result of transportation. Society is concerned that produce should be transported at the least cost and in the shortest time.

Transport unites various regions and sectors of the country into a single economic whole, and provides economic ties with foreign countries. With increased scales of production, with the development of its technology and specialisation the volume of freightage also increases. The consumption of natural resources increases in proportion to the development of material production. De-

velopment of transport is an essential condition for drawing the natural resources of new regions of the country into economic circulation.

In socialist countries all forms of transport (road, rail, air, sea, river and pipeline) form a *unified transport system*. All forms of transport develop according to plan, there is no rivalry between them. In plans for the development of separate forms of transport provision is made for scientifically based proportions and rates of growth of each of them. When allocating freight-carrying duties between separate forms of transport, their specific character is taken into consideration as are also their turnround and carrying capacities. With the aim of ensuring reliable working of the transport system the necessary proportionality in the development of separate sections within each form of transport is observed.

Transport provides freight and passenger carriage. In socialist countries freight transport belongs to the field of material production, insofar as the movement of produce from the producer to the consumer represents the completion of the production process, while passenger transport is assigned to the non-productive sphere as passenger movements represent consumer services for the population.

The transport development plan is a component part of the state economic and social development plan. Its basic task is to meet the requirements of the economy and the population for all forms of transportation at the least cost, and to improve the quality of service to the passengers. Transport development plans provide for increasing the turnround and carrying capacities of all forms of transport, the comprehensive mechanisation and automation of loading-and-unloading work, the achievement of a high level of labour productivity, a reduction in the cost of transportation and growth of profitability. They also provide for acceleration of delivery of goods to the consumer.

The reproduction period of the social product is made up of the period of production plus the period of circulation. In its turn the period of circulation depends on the period of transportation and sale of the products. Consequently, the less the transportation time, the quicker the process of reproduction and the more social product can be produced in one and the same unit of time.

To provide for the transportation needs of the economy and the population, proportionality in the development of transport and other sectors of material production is provided for in plans. This proportionality is expressed in the co-ordination of turnaround and carrying capacities of all forms of transport in the given territory with the requisite volume of deliveries and their timely provision. As a rule, the development of transport should outstrip the rate of growth of the branch of material production that it serves.

In the plans of many developing countries transport development is not co-ordinated with material production. Much greater resources are frequently allocated to the development of transport than to the development of material production, which leads to a situation in which transport capacities are underemployed. As a result, the scarce resources used for the development of transport are frozen and do not yield the due return. Indeed, if one takes into account the fact that, as a rule, the construction of transport infrastructure comes about through foreign credits, then it becomes clear that this disproportion leads, in a number of countries, to the growth of the foreign debt whilst export resources grow slowly. In the conditions of developing countries inheriting an outdated transport infrastructure from the colonial past, the development of transport is an urgent necessity.

In socialist countries the transport development plan is worked out in close co-ordination with the plans for other branches of the economy. Initial data for working out a transport development plan are the planned volumes of production and sale of industrial and agricultural products, of capital construction and of retail trade turnover. Planning of transport development is co-ordinated with plans and designs for the location of productive forces, and with the growth of foreign economic ties.

When preparing a transport development plan the planning organs try to establish the most rational ties between economic regions, proceeding from the necessity of determining the optimum freight traffic. Improvement of plans for the location of productive forces and the movement of production nearer to the sources of raw material and to the points of consumption of the products permit transport costs to be materially reduced.

Transport is a major consumer of material resources, particularly of energy, and therefore the rationalisation of transport links in the national economy reduces the volume of transport work and leads to a reduction in the demands for fuel, energy and other resources. This enables the resources saved to be switched over to resolving other important economic tasks, for example, to increasing output of consumer goods, and leads to a reduction in capital expenditure in sectors supplying rolling stock and various material resources.

Great attention is paid in the plan to questions of increasing the efficiency of transport. With this aim in view the plan stipulates:

- improvement in the utilisation of all means of transport, chiefly through reducing the idle time of wagons, ships and motor vehicles and a reduction of empty journeys;

- improvement of patterns of freight transportation, elimination of opposite and irrational traffic, and raising the responsibility of transport organisations for fulfilment of the traffic plan and the safety of loads;

- the best possible co-operation of different types of transport and a steady rhythm of loading-and-unloading work over the twenty-four hours;

- increased transportation of containerised and packaged loads.

In preparing a transport development plan and its separate forms a comprehensive approach is adopted. For example, the plan for the development of motor transport is co-ordinated with plans for the automobile industry, repair and servicing networks, training of personnel and town planning.

A transport development plan contains five groups of indicators:

- 1) Indicators determining the volume of transport work as a whole, the work of separate forms of transport and the most important kinds of load: freight turnover (in tonne-km), passenger turnover (in passenger-km), and the volume of goods dispatched (in tonnes). The most important indicator in the five-year and annual transport development plans in the USSR is the volume of freightage in tonnes. This indicator expresses most

fully the need of the economy for the final results of this sector. The indicator of freight turnover is also widely used in planning. Calculations of material and labour resources essential for transport are made on its basis. The indicators of this group determine the tasks for all other indicators of transport works.

2) Technical and economic indicators of utilisation of rolling stock; for example, on railway transport—the turnround time of trucks; in sea and river transport the average daily productivity per tonne of payload capacity and the average working period of the ship.

3) Indicators of the technical equipment of transport: the working lengths of railway networks, the length of shipping routes, of motorways and of air routes, the number of airports etc.

4) Indicators describing the deliveries of rolling stock: the number of electric and diesel locomotives, wagons and coaches, ships, automobiles and aircraft.

5) Indicators characterising the efficiency of transport undertakings: revenues, profit, commercial value etc.

All the indicators of the transport development plan must be carefully based on engineering and economic calculations. Plan indicators are selected from a large number of possible variants making wide use of economic-mathematical methods and computers.

Planning freightage. The most important section of the transport development plan is the freightage plan, which represents a composite transport development plan and contains the indicators for all forms of transport. On the basis of the indicators of the freight plan the requirements for rolling stock, fuel and material are determined, the number of workers is calculated, the financial plan (revenues and expenses of the sector) is formed, and the volume of capital investments in transport development is planned.

The following basic indicators are contained in the freightage plan: shipment in tonnes (cubic metres), average transportation distance in kilometres (miles) and freight turnover in tonne-kilometres (tonne-miles).

In preliminary calculations of the general volume of freightage in the future the growth of freight turnover depending on the growth of gross output may be planned. Later the indicators obtained may be amended, tak-

ing into account factors which influence the divergence of rates of growth of freight turnover from rates of growth of gross output, for example, changes in the location of productive forces, the development of co-operation in production.

At the stage of preliminary calculations the volume of freightage may be determined with the help of the coefficient of transportability which represents the ratio of the volume of transportable produce to the volume of its output. For example, with an annual output of produce equal to 500,000 tonnes, and a coefficient of transportability equal to 0.6, the volume of freightage amounts to 300,000 tonnes (500×0.6). Adding together the volumes of traffic of various goods transported calculated with the help of this coefficient, the general volume of freightage is calculated.

In long-term planning the needs of the economy for freightage are determined with the help of the balance method. The volume of freightage is determined by the method of balance calculations of production and consumption. The higher the rates of growth of production in industry, agriculture and capital construction, the higher the planned rate of growth of freightage. However, it does not follow from this that the volume of freightage increases on just the same scales as the rates of growth of output of produce expressed in weight. Rates of growth of freight turnover may exceed or lag behind those of production. This is explained by changes in the structure of material production, in the share of non-transportable produce in separate goods, and also in the average distance of transportation of the most important freight.

The quantity of transportable produce in the plan period is determined, for its separate kinds and as a whole, on the basis of material balances. For these purposes material balances are worked out for the most important kinds of produce occupying a significant proportion in the general volume of freight turnover. There is no necessity to work out material balances for all forms of transportable produce, as, for instance, small loads. When working out the first variant of a freightage plan, the volume of small loads may be determined on the basis of their proportion in the freightage of the pre-planning period,

Model scheme of a material balance for determining the amount of transportable produce (e.g. coal, in millions of tonnes, conventional figures)

	Base period	Plan period
I. Resources		
1. Stocks remaining at the start of the period	2	2
2. Production	25	27
3. Import	—	—
4. Other receipts	0.5	0.5
II. Non-transportable produce		
1. Consumed in situ	7	7
2. Stocks remaining at the end of the period	1.5	2
III. To be transported (I minus II)	19.0	20.5

In this example 20.5 million tonnes of coal are to be transported in the plan period: $(27 + 2 + 0.5) - (7 + 2)$

Material balances are worked out according to such a scheme for the country as a whole and for economic regions. On the basis of material balances for the country as a whole, only the volume of transportable loads can be determined but a scheme for inter-regional transportation cannot be worked out, insofar as it contains no information on regions of production and consumption. Therefore, regional (territorial) balances of production and consumption of the most important kinds of produce are worked out along with material balances.

With the help of regional balances it is possible to determine regions of domestic export, in which there is a surplus of produce, and regions of domestic import, into which it is necessary to deliver the appropriate produce.

Transport connections between regions of consumption and production are stipulated separately in the inter-regional exchange plan for each important type of freight, this plan having the appearance of a chess-board which shows the geography of the ferrying of produce. Thus, region A sends 30 million tonnes to region B and 50 million tonnes to region C, receiving in its turn 20 million tonnes from region B and 30 million from region C.

*Model scheme for a regional plan balance of
production and consumption of coal
(in millions of tonnes)*

Region	Resources	Consumption	Transported	
			out	in
1	2	3	4	5
A	10.0	5.0	5.0	—
B	9.0	1.5	7.5	—
C	10.5	2.5	8.0	—

Regional balances of production and consumption of produce allow the volumes of dispatch and receipt of the most important kinds of produce by each region to be determined, but do not tell us to which particular region produce should be sent from regions which have surplus production and in what quantity.

*Outline plan of inter-regional exchange
(millions of tonnes, conventional figures)*

Receiving region Dispatching region	A	B	C	Total
A	—	30	50	80
B	20	—	100	120
C	30	10	—	40
Total	50	40	150	240

There are, as a rule, many different variants for establishing freight traffic. Rational schemes of freight traffic are set up with the aid of the method of relative commercial efficiency of freightage, which is a variety of analytical method of planning. It provides for the comparison of different variants of freightage and the selection of the most economical one, which will ensure the minimum transport costs for carrying freight between different areas of the country. The use of economic-

mathematical methods, in particular, methods of solving *the transport problem of linear programming*, allows the working out of optimal schemes of freight traffic. In the transport problem of linear programming the reduction of transport costs to a minimum appears as the primary function (chief aim).

To determine freight turnover it is also necessary to determine the average distance of transportation, which represents the weighted average distance over which separate loads are carried from the point of dispatch to the unloading point. Multiplying the volume of loads carried by the average distance of carriage gives the volume of freight turnover for each type of freight. Their sum forms the total volume of freight turnover.

When planning the distribution of freight turnover between different forms of transport we proceed from the need to ensure the greatest efficiency in the utilisation of each form of transport, and the minimum cost and period of delivery of all freight over all transport. The complexity of the solution of this task lies in its contradictoriness. High speed brings with it an increase in costs. Air transport ensures delivery of goods in the shortest time, but air freightage is the most expensive. The lowest transport cost is by water, but water freightage gives the slowest delivery time. The main criteria for the selection of forms of transport are a reduction in transport costs and the shortest possible delivery time. Other factors are also considered, for example, costs of labour, metal consumption and capital investments.

Planning passenger traffic. The basic indicators of the passenger traffic plan is the indicator of passenger turnover which is expressed in passenger-kilometres. The volume of passenger traffic must completely satisfy the movement needs of the population. This indicator is calculated by multiplying the number of passengers carried by the average ferrying distance.

Passenger transport is divided into urban and non-urban; their planning has its special features. The volume of non-urban traffic depends on the number of the population and its mobility. Mobility of the population is determined by many factors: the ratio of urban and rural populations, the material and cultural level of the people, the length of the working day and of holidays,

the level of development of the tourist industry and so on.

A number of these factors are not subject to direct calculation, and therefore in long-term plans (for five years and more) the volume of passenger traffic by all forms of transport in non-urban communication is determined starting from data on the size and mobility of the population, and the growth of the consumption fund in the national income or the real per capita monetary incomes. The mobility of the population is expressed by the indicator "passenger-kilometres per year for one inhabitant". Monetary incomes of the population are determined taking into account all sources of income less obligatory payments such as taxes, subscriptions, insurance payments and the like.

Here is an example of the calculation of passenger traffic over the last year of the five-year plan (conventional figures).

Starting data of the base year: size of the population is 15 million people, passenger traffic 9,000 million passenger-km, real per capita incomes of the population rise over the five years by 30 per cent, population growth over the same period is 700,000 people. The excess of rate of growth of mobility of the population over the rates of growth of real per capita income over the previous five years amounted to 5 per cent.

First of all we determine the mobility of the population in the base year. For this we divide the total volume of passenger turnover by the numbers of the population (9,000m passenger-km \div 15m people). This indicator will equal 600 passenger-km per head. Multiplying population numbers by the indicator of mobility, the indicator of real incomes and the indicator of excess of the indicator of population mobility over the rates of growth of real per capita incomes we get the volume of passenger turnover for the plan year. In our example it amounts to: $(15 + 0.7) \times 1.3 \times 1.05 \times 600 = 12,900\text{m passenger-km}$.

Using the method shown one may determine the passenger turnover for individual forms of transport. In doing this one should also bear in mind the turnaround and carrying capacities of every form of transport and the availability of transport facilities.

The basic indicator of the urban passenger traffic plan is the number of passengers carried. It is determined starting from the numbers of the population and its transport mobility envisaged in the plan period, that is the average number of journeys by all forms of transport made by one urban resident in a year. Transport mobility of the population is determined taking into account the actual number of journeys over previous years and the projected changes over the plan period.

For example, if urban population numbers reach 3 million people in the plan period and its transport mobility 250 journeys, then the total number of passengers carried in urban transport amounts to $3\text{m} \times 250 = 750 \text{ m}$ passengers.

The distribution of passenger traffic among different forms of urban transport (buses, trams, trolleybuses etc.) is carried out starting from the availability of transport facilities, the needs of the population and the economically expedient spheres of application of different forms of transport. In the USSR in planning urban passenger transport, basic attention is given to the development of public transport.

Planning of utilisation of transport facilities and the development of the material and technical infrastructure of transport. Measures for improving the utilisation of transport facilities and the development of a material and technical infrastructure for all forms of transport are contained in the transport development plan. The basic indicators of utilisation of transport facilities are: for motor transport, the productivity per automobile-tonne per year (for freight traffic) or per bus seat (for passenger traffic); for railways, the average daily productivity of one freight wagon (in biaxial calculation) and tonne-kilometres (net); for sea transport, the average daily productivity of 1 tonne carrying capacity in tonne-miles.

Improving the utilisation of transport facilities allows the planned volumes of traffic to be carried with minimum expenditure on new facilities.

Plans for freight and passenger traffic have to be backed up with material resources (rolling stock, fuel, electric power), labour and financial resources. The plan for deliveries of rolling stock (motor vehicles, coaches,

ships, aircraft etc.) aims not only at traffic growth, but also to create the necessary reserves of turnround and carrying capacity of transport.

The requirement for rolling stock for different forms of transport is determined by scientifically based indicators (norms) of utilisation of stock arising from the projected volumes of traffic. The plan for deliveries of vehicles to transport is grounded with the help of a balance of rolling stock consisting of two parts: demand for rolling stock over the plan period and its supply.

Measures are projected in transport development plans for the development of transport networks, capital investments are earmarked for the building of new railways and motor roads, the construction and expansion of sea and river ports and airports. The volumes of freight and passenger traffic in the plan period, calculated by regions of the country, serve as starting data for the development plan of the transport network. By comparing the planned volumes of freight and passenger traffic with the turnround and carrying capacities of transport we can determine whether or not the existing transport network is capable of providing for the planned traffic volumes. In case of necessity a redistribution of traffic among the different modes of transport, or the building of new railway lines or motor roads is planned. In selecting a variant of new road construction the additional capital investment is compared with annual saving in running costs. Preference is given to those variants requiring the least capital and current expenditure.

Transport development plans must take into account all the latest achievements of science and technology and provide for their introduction into practice. Special attention should be paid to the strengthening of the material and technical base of transport, its technical reconstruction, the comprehensive mechanisation of labour-intensive jobs and automated control. Transport development plans contain tasks of environmental protection, neutralisation of the bad effects of traffic on the environment (air, water and soil pollution, noise etc.).

4. Planning trade

Trade is an important branch of the economy bringing consumer goods to the consumers and ensuring the stability of monetary circulation. Commercial development is an essential condition for raising the people's living standard.

In the USSR and other socialist countries trade takes three forms—state, co-operative and collective-farm. The state plan contains indicators for the development of state and co-operative trading only; collective-farm trading is not planned, and in the USSR it accounts for an insignificant proportion of commodity circulation.

The state trade development plan contains the following basic sections:

- plan of retail trading by the state and co-operatives;
- balances and plans for the distribution among large-scale consumers (industry, market stocks, reserves, export, etc.) of the most important kinds of food and non-food products;
- provision of commodities for the trade turnover plan.

The sum total of retail sales of goods relates to state and co-operative retail trading, regardless of where the buying and selling takes place (in a shop or canteen, a pharmacy or a bookstall and so on). The most important task of the trade development plan is to ensure conformity between the monetary incomes of the population, retail commodity circulation and stock-in-trade intended for sale to the population. Provision is made in trade development plans for the fullest possible satisfaction of the popular demand for foodstuffs, the products of light industry, and items intended for cultural and domestic use.

In the working out of production plans for the food and light industries commercial orders are the basis for determining the output and assortment of consumer goods. The trade development plan includes plans for the development of public catering and the strengthening of its material and technical base.

Planning retail trade. The volume of retail trade is a key indicator of the trade plan. The most important

economic proportions are planned on the basis of this indicator: correlation of sectors producing articles of consumption and the means of production, correlation between the wages fund and social consumption funds etc., the numbers of workers in trade, their wages fund, profit and other indicators of the trade plan. The volume of commodity circulation per head of the population is one of the aggregated indicators of a rise in the living standard of the population. In socialist countries the volume of commodity circulation per head of the population is steadily growing.

Planning of the volume of retail trade is done in close co-ordination with the industrial and agricultural development plans, insofar as all commodities sold through trade are created, in the main, by industry and agriculture. The retail trade development plan is directly bound up with the State Budget and the balance of monetary incomes and expenditures of the population.

The volume of retail trade turnover is planned depending on two major factors: the size of the population's purchasing fund and the amount of goods intended for sale to them. The purchasing fund is that part of the monetary income that people spend on the purchase of consumer goods.

In the plans of socialist countries the growth of monetary incomes is tied up with the growth of productivity of social labour and the production of consumer goods. Labour productivity must outstrip the growth of monetary incomes. Together with this it is essential to improve the structure of trade circulation taking into account changing demand, and to increase the proportion of high-quality goods which enjoy a particularly high demand. If the demand for particular items is not satisfied, then measures to increase their production must be provided for in the plan.

Purchasing funds are determined on the basis of the plan balance of monetary incomes and expenditures of the population. This balance describes the volume and sources of monetary incomes and how they are spent. In the incomes part of the balance all incomes received by the population from the state and the social economy (wages, pensions, allowances, grants, lottery winnings, insurance refunds) are reflected. The expenditure

part of the balance shows the basic trends in expenditure of monetary incomes. The largest part of spending by the population goes on the purchase of goods.

Purchasing funds are determined by deducting from the sum total of incomes of the population payments for services, obligatory payments, voluntary contributions and the increment of savings in deposits and state loans. In our example the purchasing fund equals 90,000 million roubles:

$$[106 - (6 + 6 + 3 + 1)].$$

Retail trade circulation is planned in comparable prices of the base year and prices of the respective years.

*Simplified scheme of a balance of monetary incomes and expenditures of the population
(conventional figures, millions of roubles)*

Incomes	Plan	Expenditures	Plan
1. Wages	77,000	1. Purchase of goods, including:	90,000
2. Incomes of factory and office workers from enterprises and organisations, other than wages	2,000	a) in state and co-operative trading	78,000
3. Monetary incomes from the sale of farm produce to the state	7,000	b) in consumer co-operatives	11,000
4. Pensions and allowances	10,000	c) in collective farms	1,000
5. Student grants	5,000	2. Payment for services	6,000
6. Receipts from the financial system	1,000	3. Obligatory payments (taxes) and voluntary contributions	6,000
7. Other incomes	4,000	4. Savings in deposits and state loans	3,000
		5. Other expenditures	1,000
Total monetary incomes	106,000	Total expenditures	106,000
Excess of expenditures over incomes	—	Excess of incomes over expenditures	—
Balance	106,000	Balance	106,000

Provision of goods for retail trade circulation. To determine the provision of goods for retail trade a system of material balances of consumer goods is worked out and other economic calculations are carried out. When determining the demand for goods it is necessary to take into account the volume of retail trade in the base period, the increment of stock-in-trade in trading organisations, the fund for reducing prices of obsolescent styles and models of goods (in the USSR this amounts to 0.5 per cent of the volume of retail turnover), the fund for replacing losses from natural wastage of commodities (in the USSR this amounts to approximately 0.2 per cent of retail turnover). The availability of scientifically based amounts of stock-in-trade allows the provision of uninterrupted service to the population. The task of the planning organs is to establish normatives corresponding to the actual requirements of commodity circulation.

Material balances and plans for the distribution of basic foodstuffs and non-foodstuffs are worked out for the country as a whole and for economic regions. Balances of foodstuffs are worked out in natural expressions (tonnes) and of non-foodstuffs in monetary expression, but for some non-food products in both natural and money expressions (fabrics, footwear).

*Model scheme of a balance of foodstuffs
(meat in thous. tonnes)*

Credit	Plan	Debit	Plan
Stocks at the beginning of the plan period	100	Market stocks	1,550
Receipts from production	2,500	Industrial treatment	1,050
Import	250	Non-market stocks (supplies to other consumers,* export, stocks in state reserve)	250
Other receipts	—	Stocks of goods at the end of the plan period	
Total resources	2,850	Total requirements	2,850

* Other consumers include sanatoria, pre-school establishments, residential schools, hospitals etc.

On the basis of the balances of food and non-food products a composite calculation is made of the goods required to provide for retail trade circulation, in which are reflected all the market stocks of goods produced for sale to the public.

To determine long-term retail trade circulation, wide use is made of consumer budgets. A consumer budget reflects the volume and structure of personal consumption by the public of material goods and services over a definite period. The foundation for the preparation of rational budgets consists of scientifically based norms of consumption of foodstuffs and rational norms of consumption of industrial goods.

In planning the supply of goods account is also taken of the costs and profit of public catering, the cost of repairing clothes and footwear, and items of household use and those intended for culture and social services.

In the majority of developing countries domestic trade is not an object of planning. The trading system in developing countries is characterised by a combination of specialised and non-specialised trade, an enormous variety of participants, from international monopolies and powerful commercial firms to numerous middlemen and individual peasants and craftsmen. These features of trade in developing countries substantially limit the possibility of state regulation of the market.

In socialist-oriented countries the state sector gradually develops in trade as well, the state sets up its own control over wholesale trade, creates a network of state shops in town and country in which consumer goods are sold at fixed prices. Consumer co-operatives, which deliver prime necessities to the public by-passing the middlemen, have become widespread in these countries. This objectively widens the framework of state regulation of retail trade, but even in socialist-oriented countries for a long time yet the central figure in trade will be the small businessman. The small private trader can be controlled by indirect methods: fiscal policy, the issue of licences, and also through a system of wholesale trade.

An important task of all developing countries is the modernisation of commerce and the improvement of organisation of transporting and storing goods.

Chapter VIII

PLANNING AT ENTERPRISE LEVEL

One of the most complicated problems of planning is ensuring the connection of the enterprise plan with the national economic plan. In socialist countries the organic unity of the enterprise plans with the sectoral plans of the economy is provided for. Herein lies one of the reasons for successful fulfilment of economic plans. The role and volume of output of each enterprise, regardless of its size, and also the consumers of its output are determined in the state plan. Working according to plan, each enterprise produces output needed by society.

1. Enterprise plan: content, sections, indicators

An enterprise is, before all else, a large collective of engineers, technicians and workers united by a single aim and a unified production process.

Each enterprise in socialist countries, in no matter what sector of the economy, has its own plan. Just as the plan for the whole economy, so the plan for the enterprise is worked out for a five-year period and for one year. It determines what will be produced in the plan period, who will deliver raw and other materials, who will buy the finished product and how many employees there should be in the enterprise.

Even in capitalist countries, where planning on the scale of the whole economy is impossible, internal planning is practised within the framework of individual firms and corporations. Capitalist undertakings work out

a production plan in conditions of keen competition, trying to adapt themselves to the free market. In accordance with the production programme an investment programme is prepared, the number of workers is determined, agreements are concluded with suppliers of raw materials and so on.

However, the activity of a capitalist enterprise depends directly on the state of the country's economy, which is determined entirely by uncontrolled market forces and changes rapidly. Such a situation undermines the practicability of within-firm planning. Complete faith in the sale of the output planned by capitalist enterprises is lacking.

Powerful transnational monopolies, having enmeshed the whole non-socialist world in their tentacles, strive to diversify production, that is, to widen the range of products and by this means to protect themselves from possible market fluctuations. In the event of slumps in production small and medium firms are the first to suffer. A fall in demand for the product quickly leads to a change in the production programme of the enterprise, and similarly tells on the suppliers.

Planning under socialism ensures the co-ordinated activity of all the enterprises in the country. Thanks to planning, socialist enterprises do not work blindly but purposefully. The state plan determines only the final results of the work of those enterprises on which the work of other sectors depends. The state plan cannot regulate in detail every aspect of the activity of an enterprise. Excessive regulation will only fetter the initiative of the enterprise. Enterprises, proceeding from the tasks of the plan, themselves decide all production and technical questions.

The five-year plan. The five-year plan of an enterprise is the basic planning document, regulating the productive and economic activity of the undertaking and the direction of its development. The solution of such problems as reconstruction, changing over to a new product, the introduction of new technology and the training of qualified staff does not come within the framework of annual plans.

In long-term plans the strategy of development of the enterprise is determined, the direction of investment

is prescribed and questions of specialisation of production are decided. The importance of long-term plans increases in enterprises having a long production cycle: mechanical engineering, machine-tool building, electrical engineering and chemical. The preparation of long-term plans creates conditions for the renewal of equipment in good time and for the introduction of the achievements of science and technology.

The most important requirement for long-term planning at enterprise level is the stability of the five-year plan, in other words, no essential changes must be introduced into the planned targets that have been assigned to the enterprise during the course of their fulfilment. Instability of planned targets reduces the role of long-term plans, creates difficulties in the work of enterprises and deprives them of clear-cut guidelines.

Changes may be made in a plan solely as an exception, in cases where non-fulfilment of the plan tasks is explained by causes outside the control of the enterprise (e.g. fall in demand for the product). Besides, the plan must not stifle the initiative of the enterprise; if some indicators prove to be obsolete then they must be amended. It does happen that the development of science and technology, or a change in the foreign economic situation give rise to a necessity to make amendments to the plan, which occurs most frequently in plans of enterprises producing consumer goods. These amendments are brought about by changes in the orders of trading organisations.

Planned targets can be firm and stable only if the preparation of the plans themselves is of the highest quality. The stability of planned targets is assured by the improvement of planning methodology and scientific substantiation of the targets. Each plan indicator must be based on thorough calculations. Overstated as well as understated targets undermine the role of plans.

All the indicators of the enterprise plan must be carefully balanced, i.e. mutually co-ordinated. Thus, for example, the planned volume of output must be co-ordinated with productive capacity, the supplies of raw and other materials, and plans for the sale of the produce. The interrelations of suppliers and recipients of output in the USSR are regulated by a system of economic agreements.

For preparing a five-year plan for an enterprise the following data are necessary:

1) *targets set by the higher organisation (ministry);*

The enterprise is the primary cell of the national economy, therefore all the indicators of its long-term plan must conform to the basic targets of the state economic development plan. Let us suppose that the state plan requires the production of 20 million tonnes of cement by the end of the plan period. This task must be distributed among cement factories in such a way that their total output by the end of the period will just amount to 20 million tonnes.

2) *portfolio of orders, economic agreements;*

An enterprise must turn out a product that enjoys consumer demand and is necessary to the economy. Therefore each enterprise studies the consumer demand for its product and builds its production plan taking into account consumer proposals. These proposals are formulated in economic agreements concluded with the consumers of the product. Economic agreements have a specially important role in working out plans for the production of consumer goods. Fashion and the tastes of consumers change quite quickly, and industry must react sensitively to these changes. Moreover, production should not follow blindly after fashion, it must also be borne in mind that production activity influences the formation of demand

3) *the articles of the enterprise;*

The articles of the enterprise is a document containing objective data on the availability and utilisation of productive capacity, the structure of equipment, the technical standard and quality of the output, and the working rhythm of the enterprise. The articles of the enterprise allow the disclosure of internal reserves which the enterprise has at its disposal, and the potential of each production sector to be determined. Accurately and objectively drawn up articles of an association or enterprise provide the possibility of working out an **economically feasible** five-year plan with its targets distributed annually.

4) *information on domestic and foreign achievements in the given sector;*

5) *suggestions of the workers, engineers and technicians for the development of the enterprise, the results of scientific research in the factory laboratories and services;*

6) *data of forecasts of the development of the sector and enterprise.*

An important principle of socialist planning is the unity of sectoral and territorial planning. A long-term development plan for an enterprise must be co-ordinated with the development plan of the corresponding sector and with that of the town and region.

So that the long-term development plan of the enterprise should be co-ordinated with the development plans of the town and region, its most important indicators are presented at all stages of preparation to the appropriate local organs.

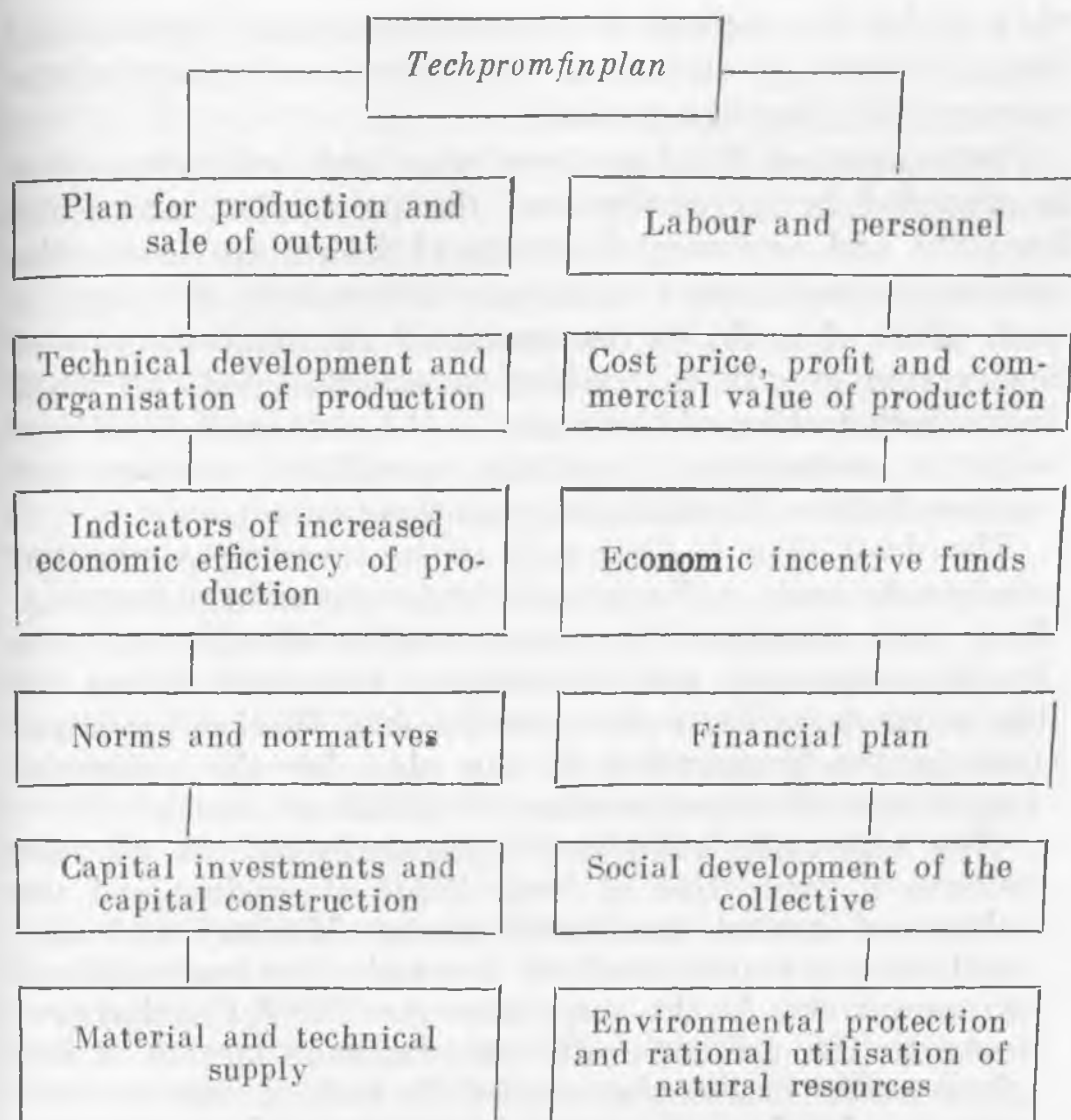
Technical-industrial-financial plan. The annual plan of an industrial enterprise, called a technical-industrial-financial plan (*techpromfinplan*) is worked out on the basis of the long-term plan. The *techpromfinplan* is a composite plan of all the production, technical and financial activities of the enterprise for the corresponding year. In the preparation of the *techpromfinplan* the estimates of the long-term plan are made more specific and additional possibilities appearing in the course of its fulfilment are taken into account.

The *techpromfinplan* of the enterprise contains just the same sections as the long-term plan. This underlines the unity of long-term and annual planning in the enterprise.

The *techpromfinplan* consists of 12 interconnected sections.

All the sections of the plan are very important, each one of them characterises a particular aspect of the activity of the enterprise. But in addition to this the first four sections may be regarded as the most important: the plan for production and sale of output (production programme), the plan of technical development and organisation of production, the plan for raising the economic efficiency of production, and norms and normatives. These sections of the plan determine, to a large extent, the activity of the whole enterprise.

The plan of social development of the collective and the plan of measures for environmental protection and the rational use of natural resources are new sections of the *techpromfinplan*. There are two types of measures in the collective social development plan. The first is a complex of measures providing for the establishment of such



conditions as would facilitate all-round personal development. To these are assigned measures directed to the raising of the general educational level, health services, and the improvement of socio-cultural and living conditions. The second category provides for such change in the social and qualification structure of the collective as would ensure the successful fulfilment of the state plan.

Measures for environmental protection provide for steps to remove the bad effects of industrial activity from the environment, in particular the construction of purifying installations and the cessation of the discharge of harmful gases into the atmosphere. This plan also contains targets for the comprehensive processing of raw material and the reduction of waste products.

Sequence of preparation of the enterprise plan in the USSR. The long-term plan and *techpromfinplan* are work-

ed out by the collective of each enterprise, proceeding from the basic guidelines of economic development of the country over the plan period.

Preparation of the long-term plan and *techpromfinplan* is preceded by an analysis of the productive, economic, financial and commercial activity of the enterprise over the previous period, and an analysis of the state of things in each place of work. In the course of this analysis unused reserves of growth in production are disclosed. All work in the preparation of the plan for the enterprise is directed by a commission, in which specialists, workers and representatives of public organisations take part.

The draft plan is discussed at the standing production conference and in Party and trade union organisations. It is very important that every worker should take part in the preparation and discussions. Economic classes for the workers facilitate this considerably. Worker participation in the preparation of the plan for the enterprise raises its quality and makes its fulfilment easier.

The enterprise submits its proposals for the planned volume of production of basic kinds of product and the volume of capital investment to the Ministry and substantiates its requirements of raw and other materials and manpower etc. At the same time the USSR Gosplan presents to the ministries the development targets of the given sector in the plan period. In such a sequence two streams of information meet, one from below, from the enterprise, and one from above, from the USSR Gosplan.

The tasks from above reflect the economic development strategy for the country, the needs of the economy as a whole and inter-sectoral proportions. The proposals from below take into account the specific features and changes in the development of particular sectors, and disclose reserves of productive growth. These streams of information are compared and studied in the ministries, which analyse the scientific foundation and intensity of the draft plans. As a result the ministries have the possibility of co-ordinating the volume of production and capital investment of the sector with the resources allotted by Gosplan. The ministries present the planned targets to the enterprises taking into account the proposals of the enterprise itself and the targets of the state plan.

Annual plans of an enterprise are worked out on the

basis of the targets and economic normatives of the five-year plan for the given year with the necessary amendments. Manufacturing enterprises and organisations determine independently in their annual plans the range of goods produced on orders from consumers and in accordance with agreements concluded.

The production and sale plan. The production programme is considered the leading section of the plan of an enterprise, for it is precisely in here that the targets relating to the final results of its activity are contained. The enterprise's production programme is worked out in physical terms (tonnes, metres, cubic metres) and in value, monetary terms.

First of all the enterprise decides what particular products its output will consist of over the plan period, and this is by no means a simple matter. In industrialised countries 16-18 million different items are produced. The enterprise, of course, has a smaller choice. This choice is predetermined by the technical resources of the enterprise, the available equipment and the skills of the workers.

Nevertheless in any enterprise there are wide possibilities for choosing a range of products. A cement factory, for example, produces cement, but there are dozens of grades of cement differentiated by quality. A furniture factory could produce simple items, chairs, tables, etc., or more complex suites of furniture. When determining the range of output the need for the given item is taken into account, as is its labour intensity (that is, how much labour is needed for production) and its profitability.

The enterprise must strive for a constant renewal of production, for the mastery of new kinds of articles, and in all cases be guided by the interests of the national economy.

After the range of products of the production programme has been determined the output of each article is planned in physical terms: steel in tonnes, footwear in millions of pairs, textiles in metres. These indicators should reflect the consumer qualities of the articles as fully as possible.

The industrial production plan for the country as a whole is composed for a small number of the most important goods which determine the tempo and proportions

of development of the whole national economy and the living standards of the people, viz. electric power, steel, oil, coal, cement, mineral fertilisers, different kinds of machines and equipment, textiles, footwear and grain.

Targets for the production of these items are forwarded to enterprises and serve as a basis for their production programmes. The volume of output of the remaining goods is planned by the ministries and the enterprises themselves.

The quality requirements for the products are also established in the production programme. One of the most important tasks of the planning organs is to stimulate an improvement in quality.

Production of higher-quality goods is profitable for the national economy. It is more profitable, for example, to produce one electric lamp with a life of 1,000 hours than two lamps each with a life of 500 hours. In producing one lamp with a longer life, society saves labour resources, raw and other materials and power, all of which can be used in the production of other goods.

For many kinds of manufactured goods the maker gives a warranty (from 6 months to 5 years). This means that the maker guarantees reliable working of the item throughout the whole guarantee period. If the item fails during this period the maker will repair it free of charge.

The planning of the volume of output in physical terms begins with the calculation of productive capacity.

Calculation of productive capacity. Many factors affect the size of productive capacity, among which the most important are the number of units of equipment installed, the norms of its utilisation, the range of goods produced, and also the amount of working time of equipment.

The number of working days in an enterprise depends on the mode of operation. According to the mode of operation we distinguish between continuous and non-continuous production enterprises. Enterprises in a number of sectors work round the clock, for example in the chemical, metallurgical, glass and cement industries. For technical reasons the production process in these industries cannot be stopped for a single hour. In other sectors of industry—light industry, food production, mechanical engineering—processes are not continuous, i.e. they have one-, two-, three-shift systems and stop for rest days.

The amount of working time of the equipment in an enterprise with a continuous production process is equal to the number of calendar days in the year multiplied by 24 hours. From this figure is excluded the time required for planned maintenance of the equipment and technical halts. Technical halts are necessary for unloading and loading equipment and machinery, and for its readjustment. Let us assume that the time allotted for planned maintenance is 300 hours per year, and for technical halts 150 hours. In this case in enterprises engaged in continuous production the amount of working time of the equipment would be 8,310 hours ($365 \times 24 - 300 - 150 = 8,310$).

In undertakings with a non-continuous production process the amount of working time of the equipment is determined by the mode of operation of the undertaking, i. e. allowance is made for the number of days per year and the number of hours per day that the equipment is working.

Suppose an enterprise does not work on Saturdays and Sundays, and the work is organised in two eight-hour shifts. In order to determine the amount of working time the number of Sundays in the year (51) and the number of Saturdays (52) plus the number of statutory public holidays must be deducted from the total number of calendar days (365) in the year. The number of statutory holidays depends on the laws of each country, and in our example we will assume that there are eight.

Then in the given example the annual amount of working time of the equipment is 4,064 hours: $(365 - 51 - 52 - 8 \text{ days}) \times 2 \text{ shifts} \times 8 \text{ hrs} = 4,064 \text{ hours}$.

Other conditions being equal, the greater the amount of working time of the equipment per year, the greater the productive capacity of the enterprise.

The sequence of calculations of productive capacity in different enterprises has its own specifics, connected with the specific character of production. In the most general form annual productive capacity is determined according to the formula:

$$C = \frac{T}{L} \times N, \text{ where}$$

C is the annual productive capacity (quantity of articles);

T is the annual amount of working time of the equipment (in hours);

L is the norm of labour for the production of one article (in hours);

N is the quantity of equipment installed.

Here is an example of the calculation of productive capacity of a coffee-milling section.

The annual working hours of a coffee mill amount to 4,064 hours; it requires 0.01 hours to grind 1 kg of coffee, and there are 10 coffee mills in the section.

In this example the productive capacity of the section amounts to 4,064 tonnes.

$$C = \frac{T}{L} \times N = \frac{4,064}{0.01} \times 10 = 4,064,000 \text{ kg}_{\frac{1}{10}}^{\circ}$$

The section can grind 4,064 tonnes of coffee per year.

For calculating productive capacity the following formula may be used: $C = N \times T \times P$, where P is the amount produced in one unit of time (min, hr, 24 hrs) by one unit of equipment.

Another example of the calculation of productive capacity of a coffee-milling section:

There are ten mills installed in the section but only eight of them are in use, two being out of order. One mill can grind 100 kg of coffee in one hour. The annual amount of working time of the equipment is 4,064 hours.

Then the productive capacity of the section amounts to 4,064 tonnes of ground coffee. $C = 10 \times 4,064 \times 100 = 4,064,000 \text{ kg} = 4,064 \text{ tonnes}$.

When determining the productive capacity of an enterprise all existing equipment, whether working or not, is taken into account. Stoppages of machinery brought about by shortage of labour, or insufficient professional training, breakdowns, shortage of raw materials, electric power, fuel or other causes are not taken into account when determining productive capacity. All these factors influence the extent of its utilisation.

The actual output is, as a rule, somewhat lower than the productive capacity. The degree of loading of the capacity may be determined with the help of the output coefficient of capacity.

The output coefficient of productive capacity (\bar{K}) is the ratio of the volume of output (O) to the productive capacity (C); $K = \frac{O}{C}$.

An example of the determination of the output coefficient of productive capacity of a cement factory:

The annual productive capacity of a cement factory is 300,000 tonnes, but the actual production in one particular year is 270,000 tonnes.

The output coefficient of the factory equals 0.9:

$$K = \frac{O}{C} = \frac{270,000}{300,000} = 0.9.$$

Consequently the productive capacity of the factory was not fully utilised and there was a shortfall of 30,000 tonnes of cement in deliveries to the economy.

In the USSR and other socialist countries the output coefficient of productive capacity is quite high. In the majority of mechanical engineering enterprises it is more than 90 per cent.

In the major capitalist countries this coefficient is much lower. Capitalist production develops spasmodically; demand rises in years when market conditions are lively and monopolies increase investment and productive capacity. However, in a capitalist market economy it is impossible to determine future limits of market demand and therefore it very soon turns out that total capacity greatly exceeds market demand. The output coefficient of productive capacity falls.

If productive capacity is not fully employed, then this means that a considerable part of the resources laid out on its creation turns out to be "frozen", and plays no part in production. To maintain "excess" capacity in normal conditions requires considerable expenditure of resources. Although it plays no part in production, its value is regularly depreciated, this depreciation adding to the cost price of the finished product. This increases production costs, and consequently reduces the profit of the enterprise.

Utilisation of productive capacity can be improved by better management, improved labour discipline, reduction in loss of working time for various reasons, improved technical maintenance of equipment, reduction in the

number of defective products and an improvement in the skills of the workers.

Knowing the average annual productive capacity in the plan period, and the planned output coefficient of capacity, the production programme of the enterprise can be determined in physical terms. To do this the average annual productive capacity is multiplied by the planned output coefficient.

Suppose the productive capacity of a cement factory in the plan period is 2,200,000 tonnes per year, and the output coefficient is planned to be raised to 0.95. In this case the annual production programme of the factory will be equal to 2,090,000 tonnes.

Volume of output sold. At the final stage of elaboration of the production programme the volume of output in natural terms (in kind) is recalculated in monetary units and the volume of normative pure output sold is determined. Under output sold is meant output made in the enterprise, dispatched to the consumers and paid for by them.

Multiplying the wholesale price of one unit of output by the annual output, we obtain the volume of output sold. Let us assume that a furniture factory has a planned output of 2,000 writing tables, 5,000 coffee tables and 3,000 sofas. A writing table sells for 50 roubles, a coffee table for 20 roubles and a sofa for 100 roubles. The volume of output sold amounts to 500,000 roubles: $(2,000 \times 50) + (5,000 \times 20) + (3,000 \times 100)$.

The indicator of volume of output sold has important significance for the organisation of contractual economic relationships of enterprises. This indicator is established for associations and enterprises for estimation of the fulfilment of targets for the delivery of produce in accordance with agreements concluded and orders received. In this capacity the indicator of output sold describes the final result of the work of the enterprise, its fulfilment of its obligations to its consumers. When estimating the productive activity of enterprises and establishing economic incentive funds, the non-completion of scheduled deliveries in terms of assortment means non-fulfilment of the sales plan and a corresponding reduction of incentive funds.

The basic value indicator in the enterprise plan is the

normative pure output (wages plus the averaged profit). The indicator of normative pure output allows the elimination of the negative aspects of gross value indicators. In normative pure output no account is taken of the value of reified labour contributed in materials completing the products and services. This indicator does not permit enterprises to profit from the increase of materials-intensive output, and eliminates the separation of output into profitable (dear) and unprofitable (cheap). Use of the indicator of normative pure output weakens the influence of varied profitability of products on the interests of the enterprise in selecting the range of products, and allows a better combination of the interests of the national economy and those of separate enterprises.

Structure of sold and normative pure output

Volume of output sold					
Material expenditure				Normative pure output	
Raw material	Other materials	Fuel, electric power	Amortisation	Wages	Profit

In normative pure output, as distinct from pure output, the size of profit from different kinds of articles is averaged. Normative pure output is part of the price, it is included in wholesale prices on the basis of average sectoral labour costs.

The normative pure output indicator plays an important role in planning the activity of an enterprise. Growth of productivity of labour is determined on its foundation, and it serves as the basis for the calculation of the wages fund of the enterprise.

The production plan must be co-ordinated with material resources, which is done at the level of the enterprise in five-year economic agreements between producer enterprises and their suppliers.

Plan of technical development and organisation of production. This plan predetermines, to a considerable extent, the whole quality aspect of the productive economic activity of an enterprise. It provides measures for

the creation and mastery of new, progressive kinds of output, the introduction of progressive technologies for mechanisation and automation of production, the modernisation of means of labour, and the improvement of the organisation of production, labour, planning and management. The technical development plan also provides for research and development work, and an improved quality of product.

The subject matter of research work carried on in the enterprise is determined by the long-term development plans of the given sector of industry. It is established depending on the production tasks facing the enterprise and the sector taking into account the list of subject targets relating to the most important scientific and technical problems. In the USSR they are worked out by the USSR Council of Ministers' State Committee for Science and Technology together with the USSR Academy of Sciences and sectoral ministries.

In the planning of research and development work in the enterprise it is very important to calculate most carefully all the expenses connected with its implementation, to provide for all the materials and equipment for carrying out the work, and to determine the expected economic effect.

The research and development plan is aimed at improving the quality of output. The plan for raising the quality of output includes the following measures: the introduction of new progressive standards and technical conditions, discontinuance of production of obsolete products, the creation of new experimental models and kinds of output, mastery of the output of new products etc.

The organisation of work tells in the most direct way on the quality of the work of the enterprise. The plan for the scientific organisation of work is part of the plan for the technical development and organisation of production. Under the term "scientific organisation of work" is understood that kind of organisation which will achieve the most expedient combination of workers with instruments and objects of labour in a unified production process. Scientific organisation of work ensures the growth of labour productivity, and the most effective use of working time and of material and financial resources.

Norms—the foundation of planning. The working out of a plan for an enterprise, just as of that for the national economy, is based on norms and normatives. Improvement of the normative base of planning is an important way of improving the quality of planning work. It is impossible to prepare any plan without a progressive normative base. The following norms and normatives are used in the preparation of plans for industrial enterprises:

- norms of expenditure of objects of labour (consumption of raw and other materials, fuel, electric power, etc.);

- normative utilisation of instruments of labour (machines, equipment, buildings);

- norms of labour costs;

- normatives of movement (organisation) of production (operation of the production cycle, amounts of unfinished production etc.);

- normatives of time required to assimilate rated capacities;

- normatives of economic incentives.

The role of progressive norms and normatives in planning at enterprise level is constantly growing. Thus the annual plans of enterprises are prepared on the basis of the targets and stable normatives of the five-year plan.

Production scheduling. Planning within the factory includes technico-economic planning and production scheduling. *Technico-economic* planning consists of working out long-term and annual plans for the enterprise, whilst the basic aim of *production scheduling* is to distribute the tasks of the *techpromfinplan* among the workshops, sections and individual workplaces calculated by the month, ten-day period, week or hour. As a result conditions are created for the smooth fulfilment of the plan for output of goods of the stipulated quality, in the stipulated assortment and quantity in the stipulated time.

Production scheduling allows a daily stocktaking of the attainment of planned targets. With its help specific targets in the form of schedules of workload for each workplace and of production programmes are worked out and given to the workshops and sections. At the same time workplaces are provided with everything necessary

(raw and other materials) for attaining the targets. Another important task of this plan is the provision of smooth and well co-ordinated work of the collectives of enterprises in the manufacture of the planned range of goods within the stipulated periods.

The system of production scheduling is formed from inter-workshop and in-workshop production planning and also of dispatch control. Inter-workshop planning ensures the co-ordinated work of related workshops, in-workshop planning has the aim of organising complete and even loading of workplaces, while the basic function of dispatch control is continuous operational control, stocktaking and supervision of the course of production and the fulfilment of the plan, and exposure and prevention of defects.

There are various systems of production scheduling, differing in the specific selection of plan calculation units. The composition of each system depends on the character of production, its scales and complexity. In Soviet enterprises with single-item production the system of production scheduling according to consumer orders is widespread. In this system a complete set of parts, used in the assembly or article, is taken as the plan calculation unit.

In enterprises with serial and mass production, characterised by a small range of goods, a system of planning according to components is used. Dispatch control service checks the movement of each article in the production cycle.

The preparation of production programmes of workshops is conducted in reverse order to the production process: it begins with the assembly of final workshops and ends with the preparatory ones. On the basis of the production programme given to the workshop, manufacturing operations are distributed among workplaces, the tasks of the production sections are determined, the workload of each workplace is calculated, and the sequence of operations is laid down. Dispatch control service, using, in particular, production schedules, exercises control over the carrying out of the jobs stipulated by production scheduling.

2. Material incentive and economic stimulation

For the first time in the history of mankind it has become possible under socialism to unite the interests of each individual with those of society. This unity of interest is based on the socialist ownership of the means of production. The produce of enterprises belongs to the whole of society and is distributed among its members according to their work. The richer the society the higher the material level of each worker.

Under socialism the direct connection between the development of social production and the well-being of each worker is clearly visible. The better a man works, the more he produces, the richer the society as a whole.

The wide economic experience of socialist countries proves that material interest in the results of one's own work, in the successful work of the enterprise, in the increase of all social production is a key factor in the fulfilment of the plan. Organisation of the fulfilment of plans in socialist countries is built mainly on material incentive.

It is very important to prepare a good plan for an enterprise, but even more important and complicated is to organise its fulfilment. How can one ensure the fulfilment of the plan in a socialist enterprise?

Both the managers of the enterprise and the ordinary workmen must strive to work as well as possible, not from fear of punishment, but because they are morally and materially interested in the fulfilment of the plan. Only in this case will all their energy and knowledge be directed to finding the best way of fulfilling the plan.

To set up an effective, reliable system of moral and material incentives is not a simple matter. Such a system must take into account the level of development of industry in each country, national specifics, and social and economic objectives of the state plan.

A system of material incentives must stimulate the enterprise to work in the direction formulated in the state plan. In this case the necessity for centralised planning of all aspects of the activity of the enterprise fades away. A small group of indicators may be centrally

planned with a view to providing material encouragement to the enterprise.

According to the results of the work in every Soviet enterprise three economic incentive funds are formed: 1) a material incentive fund for the workers in the enterprise; 2) a fund for social and cultural measures and housing construction; 3) production development funds.

The material incentive fund is shared among the employees of the enterprise according to their contribution to the fulfilment of the state plan. Distribution of the fund is implemented by the management of the enterprise together with the trade union organisation. Bonuses are paid to workers throughout the course of the year, on the results of work over a month or a quarter, and a part of the fund is paid out at the end of the year in the form of a "13th monthly wage". The size of this "13th wage" depends on the length of service of each worker in the given enterprise and on the result of the year's work of the enterprise. The payment of a "13th wage" facilitates the attachment of the employees to the given enterprise, and helps to reduce the turnover of skilled labour.

The size of the bonus received by each worker depends on the overall size of the material incentive fund, which in turn is determined by how the enterprise fulfils the plan assigned to it. The direct interest of every worker in the successful fulfilment of the plan by his enterprise can be traced throughout this chain.

The fund for socio-cultural measures and housing construction is used for the building and repair of housing accommodation, kindergartens, rest houses and sanatoria. This fund is used to pay for accommodation at sanatoria for workers from the enterprise and to finance sporting and other health-building activities.

The production development fund is formed from: 1) contributions from profits; 2) part of the amortisation deductions; 3) receipts from the sale of surplus equipment. The production development fund serves for the constant technical re-equipping of the enterprise. If this fund is insufficient to finance large-scale measures, then the enterprise may take a bank loan. The repayment of the loan and the payment of interest on it are

made from the profits of the enterprise. Economic incentive funds are formed from the enterprise's profits.

The size of economic incentive funds may be set depending on the level of overfulfilment of the production plan. In this case the greater the overfulfilment of the plan the greater the size of the funds. However, since plans are worked out in the enterprise itself, this method of economic stimulation may lead to the enterprise adopting reduced plans. After their confirmation by higher authority, the enterprise can fulfil such a plan without particular strain and set up material incentive funds, but society fails to receive a considerable amount of produce.

Obviously, it is more expedient to induce the enterprise to work out intensive plans which would to the maximum extent take into account the unused reserves available in every enterprise. The enterprise plan contains several dozens and even hundreds of indicators. The size of the material incentive funds is directly dependent on two to four indicators which are considered to be the most important.

In a planned economy all equipment and materials are subject to planned distribution. Therefore each enterprise must plan the utilisation of its own economic incentive funds in advance. If an enterprise plans the reconstruction of a workshop at the expense of the production development fund, or to build new living accommodation at the expense of the fund for social and cultural measures and housing construction, then the expenditures on these must be included in the plan. Only then will the necessary materials and resources for reconstruction or new building be ensured. In the long-term plan and the *tech-promfinplan* there are special sections in which the formation and utilisation of economic incentive funds is planned.

Because of the development of specialisation and co-operation of production the results of the work of every enterprise depend to a huge extent on material and technical supply, i.e. on how other enterprises work. Any enterprise is both a recipient and a supplier of produce. Disruptions in material and technical supplies and late delivery of raw and other materials destroy the rhythm of work of the enterprise, which, in its turn, finds itself

unable to deliver its products to its consumers at the right time.

Let us suppose that a metallurgical combine has not delivered necessary materials to a mechanical engineering factory on time. Because of this the mechanical engineering factory is unable to produce equipment and deliver it on time to a factory producing fertiliser. Therefore the chemical factory did not deliver fertiliser to agriculture at the right moment, which considerably reduced the output of agricultural produce. Through the fault of just one factory the economy has suffered a considerable loss. Fines paid by the guilty factories for disruption of supply do not compensate the economy for the loss.

In industry an estimate is made of the results of economic activity of enterprises and economic incentive funds are formed on the basis of fulfilment of a series of tasks, among which is the delivery of produce according to nomenclature and on time in accordance with agreements made, and also targets for growth of productivity of labour, improvement of the quality of output, growth of profits and a reduction in the cost of production.

The calculation of the fulfilment of the enterprise plan is conducted through increasing totals. Let us assume that an enterprise failed to fulfil the plan in January and February, but worked successfully in March. Before counting on receiving a bonus for March, the undertaking must first cover the debts of the previous period and only then will it have the right to receive the bonus.

The system of material incentives used in socialist countries has justified itself and improves with the building up of experience.

Along with material incentives for workers, under socialism wide use is made of moral stimulation too. Material and moral stimuli are organically bound together under socialism, quite differently from capitalist society. The position of every man in socialist society is determined not by his social origin, not by his personal wealth and property, but by his successes in work. The most esteemed people in socialist society are outstanding workers. They are given honour and respect.

Moral stimuli to work form a system acting on the

moral sensitivities of people, on their consciousness, and on their conscience. The awareness that one is working for oneself, for the motherland, and not for a capitalist, gives rise to the need to work even better. Various kinds of moral stimuli are based on the political consciousness of the workers, on their awareness of their role in production. Moral stimuli to work are becoming, under socialism, a powerful factor in the development of society.

In socialist countries the following kinds of moral stimuli are used: a notice of thanks, displays on the honours board, the award of honorific titles, orders and medals, the award of the title Hero of Socialist Labour.

In order to conceal the reality of capitalist exploitation in production, and to prove the unity of interests of capitalists and workers, in some capitalist firms they pursue a policy of worker profit-sharing. Pressure is put on the workers to take up shares in the enterprise which employs them. By this the illusion is created that the workers are also co-owners of the enterprise. In reality the workers' share of the profits of corporations and firms is extremely insignificant. Capitalist governments, with the aim of fighting inflation, carry on a policy of wage restraint. In fact this policy is directed against the workers. The results of such a policy can be illustrated by the following three figures from the USA: 25.2 per cent, 13.8 per cent and 7.0 per cent. The 25.2 per cent is the increase in profits of US corporations in 1978, 13.8 per cent is the rise in prices, and 7 per cent is the "ceiling" put on wage increases by the government. From these data it can be seen that wage increases for American workers are 27.8 per cent of the increased profits of the corporations, and lag behind price rises by 50 per cent.

In the USSR the dependence of the wages of every worker and work collective on the increase of labour productivity and an improvement in the final results of the work of the enterprise is increasing. *The wages fund* of an enterprise is determined on the basis of the normative wages cost per rouble of output. By multiplying the normative wages cost by the planned volume of output we get the wages fund. Savings in the wages fund against the established normative remain with the enterprise and are used to encourage those workers who have made the greatest contribution to the fulfilment of the plan. The

role of the team type of organisation and stimulation of work is growing. The team type of organisation of and payment for work corresponds in the highest degree to the character of socialist production relations. The team decides independently the amount of each individual's share in the total payment made to the team on the results of its work.

In organising the fulfilment of the enterprise plan the strengthening and development of *khozraschet* relations has an important role, helping to create more favourable conditions for the system of incentives.

3. Participation of work collectives in planning at enterprise level

The management of socialist enterprises is based on the principle of *single authority*, which means, primarily, the personal responsibility of the director for the work of the enterprise. The director of an enterprise is a state appointee and is personally responsible to the state for the safety of socialist property, for the timely and efficient fulfilment of the state plan. He ensures that the laws laid down by the state are faithfully observed in the enterprise, and that equipment and raw materials are utilised rationally.

The director is responsible not only for his own work, but for the work of the whole collective, for skilful leadership of the collective. He must possess high business, moral and political qualities, have a good understanding of technology and production, and be a good organiser. In order to carry out the tasks laid on him, the director must have sufficiently wide rights. The principle of single authority presupposes that the decisions taken by the director in the field of production are obligatory for the whole collective.

Single authority is not an accidental thing, it has emerged from the complexity of modern production, technology and techniques. In the production process it is necessary to direct the team-work of hundreds, thousands and tens of thousands of people. Without single authority the correct conduct of the centralised economic policy of the state is impossible. *The principle of single authority requires that the range of rights and duties of every*

director should be clearly defined, otherwise it might happen that one director might transfer the responsibility for decisions taken to someone else and the business will suffer for this.

Single authority in socialist enterprises is organically combined with *the collective principle*, with the wide involvement of workers in the management of production. In socialist countries the workers, engineers and office staff are the true managers of the enterprise. They have recognised the necessity for definite rules in modern industry and voluntarily and consciously carry them out. They understand that it cannot be otherwise for anything else would lead to anarchy, and the enterprise would be unable to achieve its output and work according to plan. Workers, engineers and office staff show thrift in their work; they count every working minute, every gramme of fuel, every nail, and if anyone does not approach his work in the proper spirit his own comrades call him to order.

Single authority in a socialist enterprise has nothing in common with the despotism of the private owners of enterprises in capitalist countries, who can dismiss any worker, even the whole workforce sometimes. The managers of socialist enterprises must care for their workers, they work within the framework of socialist legality, and all their activity is directed towards the good of the whole of society.

Workers in socialist enterprises are not blind slaves to someone else's will. They actively participate in discussions on all the most important problems of the production and social activities of the enterprise; they discuss plans for the development of the enterprise and their fulfilment.

In every enterprise there are standing production conferences, in which advanced workers, who have the confidence of their collective, take part. In production conferences workers and engineers hear the reports of the executives on their work, they criticise them if criticism is deserved, discuss the results of fulfilment of the plan, and put forward their suggestions and recommendations.

In every enterprise there are People's Control groups. The members of these groups are chosen in production

conferences or at trade union meetings. People's Control groups monitor the progress of fulfilment of the state plans, and ensure that state property is used only as intended and in the best possible way.

Shop-floor workers and engineers also take part in managing production through public organisations. The largest public organisation is the trade union. For the broad mass of workers trade unions provide training in production management. Shop-floor workers, engineers and managers of an enterprise have common interests and common concerns; they are all to an equal extent interested in the successful fulfilment of the production plan. In socialist countries the trade unions work in concord with the state under the leadership of the communist and workers' parties.

As well as organising the workers for the successful carrying out of the state plan a trade union organisation leads all social, sporting and cultural activities. It sometimes happens that an executive acts improperly, illegally in relation to his subordinates. In such cases the trade union is bound to interfere, to come to the defence of the worker or engineer and put right the executive who has gone too far.

Not a single worker may be dismissed without the agreement of the trade union organisation, and it rigorously sees to it that the management observes labour legislation.

In every socialist enterprise there is an annual collective agreement between the trade union organisation and the management indicating the obligations of the management of the enterprise and those of the workers and the trade union organisation. The management binds itself to improve working conditions in difficult sections, to improve accident-prevention techniques, and to build new housing accommodation, kindergartens and the like. The workers determine what possibilities they have for increasing the productivity of labour, improving the quality of output and fulfilling the enterprise plan.

The collective agreement is widely discussed at workers' meetings and changes may be introduced into it. After discussion the collective agreement is ratified by the signatures of the managers of the enterprise and repres-

entatives of the trade union organisation and becomes obligatory.

Party organisations in enterprises have the right to monitor the activity of the management. The Party organisation does not substitute for economic executives, it exercises political leadership. One of the most important forms of worker participation in production management is socialist competition.

Socialist competition plays an exceptionally important role in the development of production. It helps people to develop a new approach to work and to strengthen labour discipline. Evidence of the new, socialist attitude to work is the mass activity of innovators and inventors, in which millions of shop-floor workers, technicians and engineers take part.

Innovators and inventors improve production processes, modernise equipment, and make suggestions for the improvement of production. This becomes possible because of the growth of the general educational and professional standards of the workers. On a nationwide scale and in every enterprise the work of innovators and inventors ensures tremendous economic effect and the growth of labour productivity.

Chapter IX

PLANNING FOREIGN TRADE

The experience of socialist countries convincingly shows the necessity of establishing a state monopoly, in one form or another, of foreign trade to protect the national economy from the uncontrolled fluctuations of the world capitalist market. *State monopoly in foreign trade* means that all external operations are carried out by specialised establishments, ministries, departments or state enterprises on behalf of the state and in accordance with the targets of the state plan. Thanks to a state monopoly foreign trade activity becomes the object of state planning and is carried on in the interests of building socialism and communism.

Foreign trade allows the balancing of economic plans to be improved, provides the possibility of developing certain sectors of the economy with reduced expenditures, of accelerating technical progress and raising the people's standard of living. By means of foreign trade exchange there is the possibility of obtaining those goods which are not produced within the country, or those for which there are no production facilities (some minerals). In the period of industrialisation, when a country does not have a modern engineering industry, it is possible, through the medium of foreign trade exchange, to export raw-material, food and other resources and import machinery and equipment essential for the building of new factories and scientific research institutes.

1. Content, sections and indicators of the foreign trade plan

Plans for the development of foreign economic relations are aimed at solving the most important problems facing the national economy, and at achieving the maximum economic effect from sharing in the international division of labour. Plans for the development of external economic co-operation ensure the proper balancing of material, labour, financial and monetary resources drawn into the sphere of external economic relations with the resources and requirements of the national economy.

In the USSR the development plan for foreign trade is part of a section of the five-year plan for the development of foreign economic relations with socialist, developing and industrialised capitalist countries.

The preparation of foreign trade plans starts from the basic development targets of the national economy defined in the five-year plans. The basic indicators of the foreign trade plan must be balanced with other sections of the state economic and social development plan. When determining the volume and structure of foreign trade circulation as a whole, and with separate countries and groups of countries, and the volumes of export and import, the indicators characterising its development over the preceding period are first analysed. Special attention is given to the study of the efficiency of foreign trade relations and to the search for reserves to increase export resources. Volumes of Soviet trade with individual countries are determined on the basis of long-term inter-state agreements and obligations of the USSR and the results of co-ordinated economic planning in the countries which are members of the Council for Mutual Economic Assistance (CMEA) are taken into account. Export resources and import requirements relating to specific commodities are determined with the help of material balances.

Three co-ordinated plans are prepared in the field of foreign economic relations:

1. An export-import plan by countries.
2. A plan for the delivery of equipment and materials for projects being built abroad with the technical assistance of the Soviet Union.

3. A foreign currency plan (balance of payments) of the USSR.

The foreign trade plan is prepared for a five-year and one-year periods. Five-year plans contain the following basic indicators: volumes of foreign trade turnover as a whole and by groups of countries, volumes of exports and imports in value terms, export and import of basic kinds of machinery, equipment and other commodities in quantitative terms divided into groups of countries, the volume of deliveries of equipment and materials for projects being built abroad with the technical assistance of the USSR.

In the annual plans for the development of foreign economic relations, which are prepared on the basis of the targets of the five-year plan, the indicators of the five-year plan are specified in accordance with the possibilities and requirements of the economy of the country taking into account the world market situation.

The annual export-import plan consists of four basic sections:

- export plan by countries;
- import plan by countries;
- plan for delivery of goods for export by ministries, departments and Union republics;
- plan for supplying the national economy with imported goods.

In addition to these four sections the annual state plan contains targets for ministries and departments concerned with the delivery of goods for convertible currency.

The first two sections determine, to a considerable extent, all the remaining indicators of the foreign trade plan, in particular, rates of growth, the commodity and geographical structure of foreign trade, the volume of receipts from exports and foreign-currency payments.

The first two sections show the general volume of imports and exports in convertible roubles. The volume of imports and exports is shown separately for socialist countries as a whole, among them for CMEA and other socialist countries, then for capitalist countries as a whole and, among them, for industrialised and developing countries. For a group of capitalist countries, categories and terms of settlement are shown.

In the planning of foreign trade there is always the

task of improving its structure. In the plan for exporting goods the proportion of machinery, equipment and chemical products is constantly rising, and the more thorough treatment of raw materials for export is provided for. Import structure should serve the interests of a more complete satisfaction of the needs of the national economy for various goods, and conform to the economic strategy formulated in the state plan.

In preparing *an import plan* for machinery and equipment from abroad, only those kinds of machinery and equipment are included which correspond to the contemporary level of world technological development and have a great economic effect. Purchases of machinery and equipment in the world market are made only if domestic production cannot be organised in the time available, or when imports cost less than domestic production.

The plan for export deliveries is prepared in order to co-ordinate the plan for the export of goods with the resources of the economy, and to ensure the unconditional fulfilment of the country's obligations for export deliveries. Export resources are defined in the plan, the suppliers of goods for export are specified, and the targets for the production and delivery of goods for export are laid down for each ministry and department.

The plan for supplying the national economy with imported goods sets the tasks for foreign trade organisations to buy specific kinds of produce in foreign countries. The volume of imported goods is shown in both natural units and by value (in convertible roubles). This subdivision of the plan is prepared on the basis of the demands of the recipients of imported produce.

The Soviet Union provides technical assistance to many countries in the building of various undertakings. The number of enterprises, installations and other projects built in the postwar period, or at present being built abroad with the technical assistance of the Soviet Union, in accordance with inter-state agreements, amounted, at the beginning of 1979, to 3,842, of which 1,069 were in developing countries. Technical aid to foreign countries in the building of industrial and other establishments is implemented on the basis of the state plan.

The plan for the supply of equipment and materials for projects being built abroad with the technical assistance of the Soviet Union stipulates the amounts and directions of provision of economic and technical assistance by the Soviet Union to socialist and developing countries in the development of the national economies. When planning technical and economic co-operation, the planning organs start from the need to develop economic relations of the USSR with foreign states on a mutually advantageous basis.

The balance of payments has important significance in the planning of foreign trade. The balance of payments shows the ratio between the total payments received by the country from abroad, and the total payments made abroad over a specified period of time (year, month). The balance of payments may be favourable or unfavourable. If a country's foreign currency receipts from abroad exceed its foreign currency expenditure, then its balance of payments is favourable. If the country has made payments abroad exceeding receipts from abroad, then the balance of payments is unfavourable. Every country tries to have a favourable balance of payments because that strengthens the financial position of the country and its gold currency reserves grow. In the case of an unfavourable balance of payments the country is obliged to cover the negative balance by payments in convertible currency or by the export of gold. In the conditions of a developing country an unfavourable balance of payments may lead to devaluation of the national currency, a fall in the rate of exchange of the country's currency, and a rise in prices on the domestic market.

The basic task in working out a currency plan (balance of payments) is the fullest breakdown of sources of foreign currency receipts, and to increase the efficiency of those organisations engaged in the conduct of foreign economic affairs. Particular attention is paid to economical expenditure of foreign currency.

A composite currency plan and the currency plans of the ministries are worked out for one year only. For a longer period, for example for five years, currency estimates, essential as foundations for the tasks envisaged in the five-year plan, are compiled. The basis of these

estimates is the draft plans of export and import, plans for the sale and purchase of licences, agreements on economic, technical and cultural co-operation and the development of tourism with foreign countries, data on the development of international transport of freight and passengers and the provision of other services.

The balance of payments and currency estimates for the five-year plan in the USSR are composed of the following basic sections:

I. Trading operations (goods, trading and overhead expenses).

II. Services (transport and communications, technical and other forms of aid, licences, insurance and tourism).

III. Non-trading operations (maintenance of establishments and representatives abroad, expenses of temporary missions, contributions to international organisations etc.).

IV. Credits and property (state, commercial and bank credits, capital investment, sales and purchases of property etc.).

V. Gratuitous assistance.

The structures of balances of payments prepared in developing and industrialised capitalist countries have their own special features. In these countries the balance of payments consists of two parts: the current balance of payments and the balance of movement of capital. Into the first balance are entered payments and receipts relating to: 1) foreign trade operations; 2) the chartering of ships, their servicing in ports, insurance etc.; 3) returns on capital investments abroad and payments of dividends and interest on foreign capital; 4) payments for the expenses of tourists, diplomatic and trade representatives and corresponding receipts; 5) payments and receipts from non-commercial transfers (e.g. from emigrants to their homeland). The majority of developing countries have an unfavourable current balance of payments, the legacy of their exploitation by developed capitalist powers and transnational monopolies. The balance of capital movements includes sums payable by other countries for loans and credits granted to them, and amounts flowing in from other countries from loans and credits received from them.

2. Determination of the economic efficiency of foreign trade

The economic efficiency of foreign economic activity, just like the efficiency of industrial activity, is determined by contrasting the results, obtained by society in the form of goods, with the costs of their manufacture. One result of foreign trade activity is economy in social labour, connected with the import of goods and the freeing of society from the expenses of their manufacture. Outlays by the national economy on the production of goods for export come under the heading of expenditure. The determination of the efficiency of foreign trade relations reduces to the commensuration of national economic expenditure on the production of export goods with the expenditures the country would have to bear if the imported goods were produced within the country.

The application of this principle in practice means that it is right to export those goods the manufacturing conditions of which are better within the country than abroad, that is, in the world economy, and to import only those goods of which the domestic cost is higher than *the international cost*. Developing countries, having low labour productivity and consequently a high domestic cost of goods, cannot gain in foreign trade exchange from the difference between world and domestic costs. For those countries the effect of foreign trade may be expressed in the fact that the export of "cheaper" goods rises, and the country imports, using export earnings, those goods which its own industry would find it dearer to produce, or else whose production cannot be set going in the near future.

In the final analysis economic gains from participation in international exchange appear in the growth of national income. In calculations of the economic efficiency of foreign trade the problem of determining the *full domestic cost* of the production of goods for export has an important methodological significance. The observance of a national economic approach to the evaluation of the efficiency of foreign trade relations

requires the utilisation of those prices that reflect to the maximum extent the cost of the goods.

In the USSR at the present time in practical calculations of the efficiency of foreign trade various methods are used to determine the *full domestic costs* of producing goods. In doing this use is made both of estimated and actual prices. Full domestic costs of the production of goods for export are determined on the basis of the common expenditure by the formula:

$$E = C + E_n \times I,$$

where E is the common expenditure;

C is the cost of manufacture of one unit of the product;

E_n is the normative coefficient of efficiency of capital investments and the use of fixed and circulating assets in the national economy (it equals 0.15);

I is the specific capital investments, that is, capital investment per unit of output or unit of productive capacity.

An economic cost estimate of imported produce is made according to actual expenditures by the national economy on the manufacture of this produce or in accordance with the costs of producing similar produce taking into account the differences in quality. Other methods are also used.

The level of foreign trade prices exerts a direct influence on the effectiveness of foreign trade relations. The methods of price fixing used by socialist countries ensure equivalency of exchange. Trade between socialist countries involves the use of contract prices, whereas the trade of socialist countries with capitalist ones involves world market prices.

For *estimating the efficiency* of foreign trade a whole system of complementary indicators is used. *Indicators of the relative currency efficiency of export* are calculated as the ratio of the net foreign currency earnings from the export of goods to the domestic costs of their production and transportation:

$$\bar{X}_e = \frac{C_e}{E_e},$$

where X_e is the indicator of relative currency efficiency of export;

C_e —the net currency earnings from the export of goods;

E_e —the domestic costs of production of goods for export.

This co-efficient shows how many convertible roubles are obtained for one rouble of domestic expenditure. The higher the co-efficient, the more efficient is export.

The indicator of relative currency efficiency of import of different items is determined by the formula:

$$\bar{X}_i = \frac{E_i}{C_i},$$

where X_i is the indicator of relative currency efficiency;

E_i is the domestic value of imported goods;

C_i is the foreign currency expended on imports.

From the indicators of relative currency efficiency of import one can see how much the national economy saves as a result of importing the given goods per convertible rouble.

Indicators of relative currency efficiency may be used for comparison of the efficiency of export and import of goods only within the limits of trade with a specific country or group of countries having one and the same currency. They are used for planning improvements in export and import structure.

Here is an example of the calculation of indicators of relative currency efficiency of the export of three types of goods. It is proposed to export steel, coal and timber to one country. Export prices and domestic costs of production are shown in the following table.

Commodities	Export price (convertible roubles)	Cost of pro- duction (roubles)	Indicator of relative currency efficiency
1. Steel (tonnes)	76	80	0.95
2. Coal (tonnes)	27	30	0.9
3. Timber (tonnes)	35	50	0.7

$$1. \bar{X}_e = \frac{76}{80} = 0.95; \quad 2. \bar{X}_e = \frac{27}{30} = 0.9; \quad 3. \bar{X}_e = \frac{35}{50} = 0.7.$$

From the above calculations it can be seen that when exporting steel the foreign currency earnings amount

to 0.95 convertible roubles for one rouble of domestic costs, and when exporting coal and timber respectively 0.9 and 0.7 convertible roubles for one rouble expenditure.

This indicator is less than one for all three commodities, but this still does not give any grounds for considering their export unprofitable. The indicator of relative currency efficiency of export permits the relative advantage (or disadvantage) of one export over another to be estimated. Thus, for example, the export of steel is the most effective, while the least effective of all is timber. The drawback of indicators of relative currency efficiency lies in the fact that they do not take into account the purchasing power of different currencies.

In the export of goods to different countries for different currencies corrections must be made to the indicators of relative currency efficiency taking into account the existing differences in purchasing power of different currencies—those earned from exports and those spent on imports. These correction factors are called indicators of the *efficiency of the import or export equivalent*. In other words, the economic efficiency of the export of goods must be determined taking into account the efficiency of import of those goods which are bought with the foreign currency earned. The composition and quantity of these imported goods are called the import equivalent.

The indicator of efficiency of the import equivalent ($X_{i. equiv.}$) is calculated by the formula:

$$X_{i. equiv.} = \frac{\sum E_i \times P_i}{\sum C_i \times P_i}, \text{ where}$$

P_i is the quantity of separate kinds of goods comprising the import equivalent;

$\sum E_i \times P_i$ is the total expenditure on domestic production of goods of the import equivalent;

$\sum C_i \times P_i$ —the total expenditure of foreign currency in payment for goods of the import equivalent.

When determining the economic efficiency of import of specific goods taking into account the purchasing power of the foreign currency spent on their purchase, the indicator of *efficiency of the export equivalent* is

taken into account. Under export equivalent is understood the composition and quantity of goods which it is necessary to export to a given country to pay for the products imported from that country.

$$X_{e.\text{equiv.}} = \frac{\Sigma C_e \times P_e}{\Sigma E_e \times P_e},$$

where $X_{e.\text{equiv.}}$ is the indicator of efficiency of the export equivalent;

P_e —the quantity of separate kinds of goods comprising the export equivalent;

$\Sigma C_e P_e$ —the total of foreign currency earnings from the export of goods forming the export equivalent;

$\Sigma E_e P_e$ —the full domestic costs of production and transportation of exports.

An example of the calculation of the indicator of efficiency of the import equivalent.

The data given in the table are characteristic of trade turnover with one country (conventional figures).

Commodities	Volume of imports	Foreign trade price of one unit of commodity (convertible roubles)	Domestic cost of one unit of imported commodity (roubles)
Mineral fertilisers	100,000 tonnes	50	70
Automobiles	5,000	15,000	20,000
Iron ore	50,000 tonnes	10	8

The indicator of efficiency of the import equivalent equals 1.2:

$$\begin{aligned} X_{i.\text{equiv.}} &= \frac{\Sigma E_i P_i}{\Sigma C_i P_i} = \frac{100,000 \times 70 + 5,000 \times 20,000 + 50,000 \times 8}{100,000 \times 50 + 5,000 \times 15,000 + 50,000 \times 10} = \\ &= \frac{107,400,000}{80,500,000} = 1.33. \end{aligned}$$

The efficiency of the import of specific products, taking into account the indicator of efficiency of the export equivalent ($X_{e.\text{equiv.}}$), is determined by the following

formula:

$$X_i = \frac{E_i}{C_i \div X_{e.\text{equiv.}}}$$

Accordingly, the export indicator of specific product exported to one country or group of countries, taking into account the purchasing power of the currency of this country (or group of countries), is determined by the formula:

$$X_e = \frac{C_e}{E_e} \times X_{i.\text{equiv.}}$$

If the indicators of efficiency of export and import of specific goods to specific countries are equal to or greater than one, then the export (import) of the given commodities is profitable.

Let us continue the calculation of the economic efficiency of the export of steel, coal and timber, this time taking into account the indicator of efficiency of the import equivalent:

$$1. X_e = \frac{C_e}{E_e} \times X_{i.\text{equiv.}} = \frac{76}{80} \times 1.33 = 1.26.$$

$$2. X_e = \frac{27}{30} \times 1.33 = 1.2.$$

$$3. X_e = \frac{35}{50} \times 1.33 = 0.93.$$

In the given example, taking into account the purchasing power of the currency obtained from the export of produce, it is profitable to export steel and coal, but the export of timber is unprofitable.

In foreign trade the export (import) of goods is very often done on credit. When determining the economic efficiency of foreign trading operations on credit terms, it is essential to take into consideration, firstly, the time gap between deliveries of goods and payments, and secondly, the payment (receipt) of interest for credit.

In the planning of foreign trade, together with the indicators of efficiency, it is necessary to take into account the social and political factors also, to be guided

not only by considerations of the present moment, but also the long-term interests of the country.

The role of foreign trade and foreign markets is particularly great for developing countries. These countries are indissolubly bound to foreign markets, where they sell part of their gross domestic product. Developing countries satisfy a considerable part of their needs for the means of production, for foodstuffs, and manufactured consumer goods in this way.

The foreign trade of developing countries is characterised by a pronounced orientation towards the export of a restricted range of goods, as a rule, of raw materials. This circumstance makes the economies of newly-liberated countries greatly dependent on the world capitalist economy, which is the chief consumer of their produce, and thus the planning of export revenues, finances and investments more difficult.

In spite of the difficulty of planning external economic relations all developing countries have separate sections in their plans in which the export-import programme and the balance of payments feature. These programmes have, as a rule, the aim of diversifying exports by increasing the export of the produce of the emergent manufacturing industry, and of reducing the proportion of imports in the gross product.

The volume of exports is determined starting from the industrial and agricultural development programmes. The efforts of developing countries to increase the export of the products of manufacturing industry meet with stubborn resistance from the Western powers, which quite often leads to failure to attain the planned volume of exports.

The capital investment needs for imported equipment and materials, as also the needs of the population for foodstuffs, serve as initial data for determining the volume and structure of imports. Great attention is paid in the plans to the problem of control of the balance of payments, and to the reduction of the deficit in the trade balance.

The most typical feature of export-import programmes of many developing countries is their indicative character in view of the borrowing of bourgeois conceptions of planning and great dependence on the anarchy of

the world capitalist market. Plans for the development of foreign economic relations quite often change in the process of their implementation.

The experience of developing countries shows that the efficiency of planning of foreign economic relations is higher in those countries where the state sector occupies stable positions in the national economy and where a state monopoly of foreign trade is established.

Chapter X

JOINT PLANNING ACTIVITY OF SOCIALIST COUNTRIES

At the present time the process of integration has become a widespread, typical phenomenon in the economies of socialist countries and of developed capitalist and developing states. Economic integration is objectively conditioned by the development of productive forces of society, the intensification of the international division of labour, and the internationalisation of economic life which is growing on this foundation.

Within the framework of the world socialist system internationalisation is characterised by the strengthening of links and interdependence of national economies. Structural and organisational pre-conditions are being created for them to function as an integral organism, and the political, ideological and diplomatic co-operation of socialist countries is being strengthened. The process of all-round, gradual convergence of socialist countries is an objective law of contemporary world socialism. The setting up in 1949 of the Council for Mutual Economic Assistance (CMEA), an international economic organisation of a new type, had an important influence on the acceleration of socialist economic integration. CMEA unites ten socialist states in Europe, Asia and Latin America, comprising Bulgaria, Cuba, Czechoslovakia, the GDR, Hungary, Mongolia, Poland, Romania, the USSR, and Vietnam.

1. Basic forms of joint planning activities

Socialist economic integration is developing *systematically*. This arouses the necessity for, and creates the possibility of, planned management of the national economy in every socialist country and joint planning activity of socialist countries.

Joint planning has its own *specific* character, conditioned by the existence of several state owners of the means of production in the framework of the world socialist economy. Every socialist country is the owner of the national means of production, and independently controls the internal economic proportions.

Joint planning has a contractual character. The principle of contractual plan obligations ensures the possibility of co-ordination of the obligations of socialist countries in the field of economic co-operation. Each country accepts its obligations entirely voluntarily. The participation of countries in joint planning work is implemented by means of national economic planning. Each country makes provision in its own economic plan for specific tasks to implement the agreements concluded with its partners.

The Council for Mutual Economic Assistance (CMEA) uses the following basic forms of joint planning:

- consultations of CMEA countries on basic questions of economic and scientific-technical policy;
- co-ordination of national economic plans;
- joint planning by interested countries of specific sectors of industry and lines of production;
- the drawing up and implementation of a co-ordinated plan of multilateral integrational measures;
- the drawing up and implementation of long-term specific programmes of co-operation;
- exchange of experience in the planning and management of the national economy.

In 1971 the CMEA members approved the Comprehensive Programme for the Further Deepening and Improvement of Co-operation and the Development of Socialist Economic Integration by the CMEA countries. It determined the prospects for co-operation of socialist countries until 1990.

The basic form of joint planning by CMEA countries is the *co-ordination of national economic plans*, ensuring the most advantageous division of labour among socialist countries and the more efficient use of available resources. The main object of the co-ordination of national economic plans is the common pattern of the division of labour among interested countries and the amounts of mutual deliveries of goods flowing from it.

International division of labour means before all else the intensification of international specialisation and co-operation in production. The development of specialised production occurs in the leading sectors of a modern economy, above all in the engineering industry.

Long-term co-ordination of national economic plans is carried out for the most important sectors of the economy having great development prospects, and is chiefly significant for the five-year period. It ensures the balancing of the five-year domestic plans with five-year plans of international socialist co-operation.

Co-ordination of five-year plans has been going on since 1954. Over the past years socialist countries have acquired considerable experience in this field. In the past co-ordination of plans began after the preparation and official confirmation of national plans, and in these conditions it was difficult to co-ordinate them insofar as national resources were already "tied up" in each country's plan. Since 1970 co-ordination of plans has gone on in parallel with the preparation of national plans. This allows the needs and possibilities of other countries to be taken more fully into account in national plans. The result of co-ordination of plans is the signing by the heads of the central planning organs of bilateral final protocols on the basis of which five-year inter-governmental trade agreements are worked out. The protocol lays down the volume of deliveries of goods in the plan period.

Joint planning by interested countries of separate sectors of industry and lines of production is still not a joint plan for the development of one or another line of production, but consolidates the co-ordination of national planning decisions in the field of production of specific goods or the development of specific sectors of the national economy.

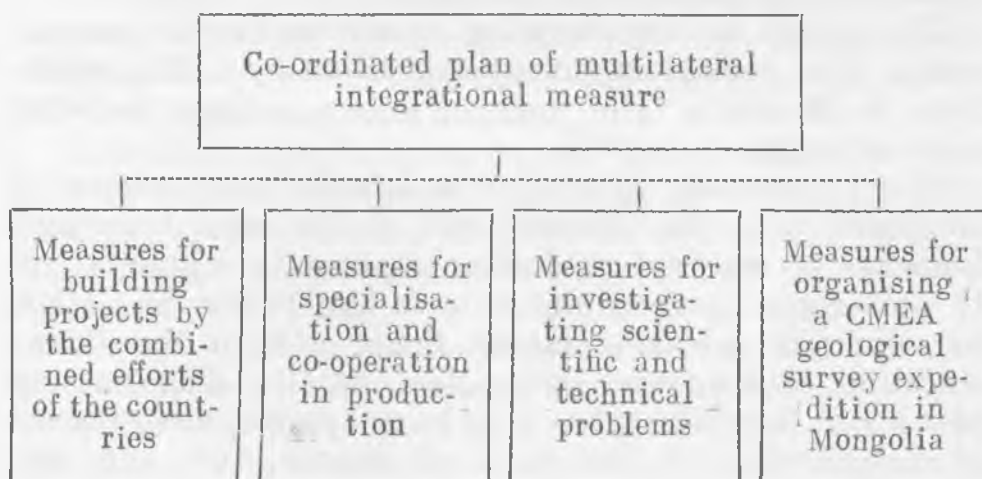
The choice of sectors or lines of production for collaboration is made by the national planning organs taking into account the basic trends in the development of specialisation determined when plans are being co-ordinated. Therefore this form of planning is closely linked to other forms of joint planning, above all, to the co-ordination of national economic plans.

Joint planning activity was called for, primarily, by the necessity for developing intra-sectoral specialisation and co-operation of production between CMEA countries. The development of specialisation of production requires a comprehensive solution to a whole series of problems, including the scientific and technical development of a sector or line of production, designing, the creation of experimental products, capital construction, material and technical supplies and the sale of produce.

Countries which are interested in joint planning of separate sectors or lines of production conclude an agreement or treaty. This serves as a basis for the conclusion of contracts for participation in designing new kinds of articles, for material and technical supplies, and the sale of the finished products connected with the implementation of the agreements.

The working out of a *co-ordinated plan of multilateral integrational measures* is one of the new forms of collaboration of CMEA countries in the field of planning. It has great importance for intensifying the process of integration, for the development of the national

Structure of a co-ordinated plan of multilateral integrational measures



economies of all the member-countries. The plan consists of four sections.

The first section of the co-ordinated plan provides for the building of about 30 projects at a total cost of 9,000 million roubles. On the territory of the USSR it is intended to build 11 large-scale integrational projects by combined efforts. In Cuba it provides for the building of a factory to produce nickel-cobalt products with a capacity of 30,000 tonnes per year, and a number of other projects. The largest mining and concentration combine in Asia is being built in Mongolia.

In the second section measures are outlined for the development of international specialisation and co-operation in production. CMEA countries have concluded multilateral and bilateral agreements on specialisation and co-operation in the production of about 8,000 engineering products.

Specialised production tells favourably on the economic indicators of production. It allows the scale of production to be substantially increased, as the consumers of the specialised products are other socialist countries, too; it allows production costs to be lowered, the productivity of labour to be raised and the quality of output to be improved.

The third section plans measures for the development of scientific and technical co-operation of CMEA countries. This section includes research into 17 major scientific and technical problems, including the problem of rational utilisation of fuel-energy and raw material resources, problems of environmental protection and the protection of metals from corrosion.

The fourth section includes measures for the organisation of a geological survey expedition by CMEA countries in Mongolia. The work of this expedition is being planned right up to 1985.

The preparation of long-term specific programmes of co-operation in the development of the most important branches of material production represents a qualitatively new stage in the unification of the efforts of CMEA to solve the problems facing them, and in the intensification of economic integration. At the 32nd Session of CMEA in 1978, three long-term specific programmes of co-operation (in the fields of energy, fuel and raw

materials; agriculture and the food industry; and mechanical engineering) were adopted. At the 33rd Session in 1979, two more such programmes covering the fields of production of consumer goods and transport were adopted. These programmes define the agreed strategy for co-operation of the member-countries, unravel and put into concrete terms the Comprehensive Programme of socialist integration.

The necessity for working out these long-term specific programmes is explained by the further intensification of the international socialist division of labour, by the strengthening of the role and importance of multilateral forms of co-operation in the development of integration. This dictates the necessity of selecting the key areas of international socialist division of labour. To such key problems is related, in particular, the problem of providing the economically feasible requirements of CMEA countries for raw materials, energy, engineering products, consumer goods and foodstuffs.

These long-term programmes are directed towards the achievement of specific targets; they are laid down for 10-15 years, as the implementation of the set tasks requires a long period of time. The long-term specific programmes become the foundation for working out five-year plans of multilateral integrational measures.

Specific programmes are comprehensive, embracing not narrow areas in co-operation but many sectors and spheres of the national economy. They have a multilateral character and all CMEA countries take part in their preparation and implementation.

Long-term specific programmes of multilateral co-operation represent the socialist way of solving such complex economic problems as the energy, raw material, food and transport problems.

Long-term specific programmes for co-operation contain about 340 measures, including problems of international specialisation of production and co-operation in the fields of science and technology. About 200 of these measures are being, or will be implemented on a multilateral basis, the remainder will be bilateral. Implementation of these programmes will allow the 1980s to be transformed into a period of intensive production and scientific production co-operation of socialist countries.

Approved long-term specific programmes for co-operation plan the general contours for solving problems, but the material and financial resources necessary for their implementation have still to be determined. With this aim bi- and multilateral agreements, ensuring the practical realisation of the approved programmes, are worked out. The content of these programmes becomes a component part of the national five-year plans.

In long-term specific co-operation programmes in the fields of energy, fuel and raw materials great attention is given to the development of fuel-energy bases for CMEA countries, because reliable provision of fuel-energy resources is the key factor for the successful development of the national economies of CMEA countries. In socialist countries all sectors of the fuel-energy complex are developed on a planned basis.

A highly important direction in the development of power engineering is the acceleration of atomic power engineering. With the technical co-operation of the USSR atomic power stations with a total capacity of 37 million kw are to be built in the European CMEA countries and in Cuba. The construction of these power stations will save these countries 75 million tonnes of ideal fuel annually, which is equivalent to half their annual import of fuel and power from the USSR. In addition the joint building of two more atomic power stations in the USSR, each having a capacity of 4 million kw, is planned, and their electricity will be supplied to other CMEA countries.

Another important direction of the programme is an increased extraction in CMEA countries of solid fuels, the reserves of which in the European CMEA countries amount to 105,000 million tonnes, and a fuller utilisation of the available hydropower resources.

The main aim of the long-term specific programme of co-operation in the fields of agriculture and the food industry is to co-operate to the maximum extent in satisfying the rational requirements of the populations of CMEA countries for high-quality food products, and in setting up essential reserves. The programme provides for the promotion of increased production of grain, other valuable agricultural crops, and animal farming produce in each country.

Provision of the requirements of each socialist country for basic food products will be implemented chiefly on the basis of internal production, but also on the basis of intensified international division of labour and the expansion of economic, scientific and technical progress in CMEA countries.

Although the level of consumption of basic food products in socialist countries is quite high (the calorie content is 25-35 per cent higher than the indicator calculated by the FAO for the world as a whole) there is still an insufficient proportion of vegetables and fruit and of animal proteins in the composition of food intake. There are differences between countries in the level of per capita consumption of the more valuable foods.

The specific programme for the food industry plans the implementation of more than 60 measures. Among them is assistance in increasing the production of grain, animal farming produce, freshwater fish, eggs and other basic food products. In each CMEA country provision is made for increasing the production and reciprocal deliveries of several kinds of foodstuffs (sugar, fruit, vegetables) on the basis of utilisation of favourable natural and climatic conditions in a number of socialist countries. In this way this programme creates the possibility of systematic formulation, with the participation of interested countries, of export production profiles of the countries of the socialist community in the agro-industrial sphere.

The programme sets out the task of substantially increasing the output of the following products by CMEA countries by 1990: meat and meat products by 90 per cent, fish and fish products by 110 per cent, butter by 60 per cent, sugar by 40-50 per cent and wine by 60 per cent.

By 1990 Cuba will increase the delivery of sugar to the European countries of CMEA to 9 million tonnes, and of citrus fruits to 2.4 million tonnes. The programme envisages the possibility of opening up the virgin lands in the northern part of the Gobi zone and in the Khalkhin-Gol region of the Mongolian People's Republic for increasing the output of fodder and grain crops. The programme also provides for the organisation of production and treatment of citrus and tropical crops

in Vietnam. The European CMEA countries will specialise in the production of temperate-climate fruit and vegetables.

For complete satisfaction of the needs of CMEA countries for grain the task has been set of raising its average annual per capita production to 1,000 kg. Compare this with the fact that the 1971-75 figure was 700 kg. By joint efforts, high-yield varieties of agricultural crops will be created and high-yielding strains of cattle will be bred.

The fulfilment of the long-term co-operation programmes depends in the first place on the extent to which the new industries can be supplied with the necessary equipment, and on the condition of the mechanical engineering industry of CMEA countries. *The long-term specific programme in the engineering field* sets the task of raising the efficiency of the engineering industries of CMEA countries, concentrating the efforts of the mechanical engineers in the most important directions determined by the specific programmes.

The mechanical engineering programme must provide for the equipping and re-equipping of the most important sectors of manufacturing industry with the most advanced installations. This problem will be solved by mastering the latest technology, raising the level of mechanisation and automation in industry and making wide use of electronic computers. The main emphasis in the programme is laid on providing the fuel, power and raw-material sectors with the most advanced equipment.

The long-term specific programme for the production of consumer goods provides for a considerable expansion in the production of natural and man-made fibres. An increase in the production of natural fibres will be provided by the assistance of CMEA countries in expanding the production of cotton fibres in the Central Asian regions of the USSR.

The needs of CMEA countries for man-made fibres will be satisfied by means of co-operation between interested countries in the creation of new productive capacity for the manufacture of man-made fibres which are in short supply. The working out and introduction of new technologies in this field is also planned.

Two special sub-programmes are designed to assist in the more complete satisfaction of the rational needs of the population for consumer durables. One of them plans co-operation in the field of colour television and the production of video-recording and reproducing apparatus, the other in the development and manufacture of up-to-date household appliances (refrigerators, washing machines, vacuum cleaners).

The basic tasks of *the long-term specific programme for transport* consist in the expansion of frontier stations and ports, and the co-ordinated development of all forms of inter-state transport communications of CMEA countries for the satisfaction of their constantly growing needs for transportation of freight and passengers. The programme provides for the reconstruction by joint efforts of internationally important rail and road routes, the development of airports and the joint exploitation of a series of international routes.

It is planned to fulfil the approved programmes by co-operation in time-tested forms; these are specialisation and co-operation in production, the co-ordination of plans, the working out of co-ordinated five-year plans of multilateral integrational measures, and the carrying out of joint research and development works.

In the Report of the CPSU Central Committee to the 26th Party Congress attention was drawn to the necessity to study and make wider use of the multiform positive experience of fraternal countries in the organisation of production and management when tackling major economic problems. The report paid particular attention to the importance of studying the experience of the work of agricultural co-operatives and enterprises in Hungary, the experience of the rationalisation of production, the saving of energy, raw and other materials in the GDR, the organisation of social security in Czechoslovakia, the creation and functioning of an agro-industrial complex in Bulgaria and a number of other European socialist countries.

2. The organisation system
of planned guidance
of economic collaboration
of CMEA countries

The leading role in collaboration in the field of planning, particularly in the co-ordination of plans, belongs to the central planning agencies of the member-countries of CMEA. In conditions of socialist economic integration, *collective guidance* of international collaboration is a continuation of the organisational management functions of socialist states. International guidance of the economic collaboration of countries of the socialist community does not involve any kind of constraint or limitation of national sovereignty, does not imply the handing over of any functions of national planning and guidance to supra-national organs.

The organisational system of planned guidance of economic collaboration of CMEA countries was formed and improved gradually. The organisational system that now exists meets the tasks of implementing joint activity in the sphere of production, and facilitates the intensification of the united efforts of concerned countries in the decisive areas of economic activity.

In the organisation of international guidance of economic collaboration the leading role belongs to the Council for Mutual Economic Assistance, whose activity is regulated by its Charter. The CMEA Charter states that the basic task of CMEA is to assist the further intensification and improvement of co-operation, and the development of socialist economic integration.

The organs of CMEA are invested with definite powers, they have the right to adopt recommendations and decisions with the agreement of all concerned member-countries. In the Council for Mutual Economic Assistance and other inter-state economic organisations all socialist countries, regardless of the size of their population or their economic potential, possess equal rights and each has a vote.

Recommendations and decisions do not extend to those countries which have expressed their lack of interest in the questions under review. If a country should later on display interest in the recommendations and decisions of

CMEA organs, then it may join them. This procedure of adoption of recommendations and decisions guarantees the real equality of all countries and allows measures to be implemented in which not all countries are interested.

Recommendations and decisions of the organs of CMEA are taken with the participation of competent representatives of all concerned countries, and are then put into practice in the countries by their national organs.

The highest organ of CMEA is the *Session*, which consists of delegations from all the member-countries. The membership of each delegation is decided by the government of the country concerned. Sittings of the CMEA Session are called annually in the capitals of the CMEA countries in turn, under the chairmanship of the leader of the delegation of the country in which the Session has been summoned. Since 1970 sittings of the Session have been conducted at heads-of-government level.

The Session is invested with great powers, it may examine all questions connected with the work of the Council. Guidelines for socialist economic integration are examined by Sessions, and the guidelines for CMEA activity are determined. It has the right to introduce additions and changes into the Comprehensive Programme and Charter of CMEA, take decisions on the admission of new members and confirm agreements on co-operation of CMEA countries with other countries, and it discusses the reports of the Executive Committee on the work of the Council.

The Executive Committee is the chief executive organ of the Council. Representatives of all the member-countries at the level of deputy heads of government, who are at the same time permanent representatives of their country in CMEA, form the Executive Committee. They also co-ordinate the work of the national representatives in other organs of CMEA. The Executive Committee provides the practical guidance of all work on the development of socialist integration in accordance with decisions of the Session, sees that countries carry out the obligations which they have voluntarily accepted, leads the work on the co-ordination of national economic plans and the development of specialisation and co-operation in production, and examines proposals of member-coun-

tries for improving economic, scientific and technical collaboration.

CMEA has *three committees* which provide a comprehensive scrutiny and settlement on a multilateral basis of the basic problems of co-operation in the fields of economics, science and technology, and implement the co-ordination of activity of other organs of CMEA.

The Committee for Co-operation in the Field of Planning Activity plays a most important role, consisting as it does of the heads of the central planning organs of the member-countries. The committee has a permanent working organ, the Bureau, which consists of deputy heads of the central planning organs. The committee for co-operation in planning identifies the problems and directions of co-operation, and proposes ways for their planned solution.

The Committee for Scientific and Technical Co-operation consists of the heads of ministries and departments of science and technology of their respective socialist countries. The committee unites and co-ordinates the efforts of all the countries to accelerate scientific and technical progress on the basis of joint scientific and technical research, and concentrates the resources of all countries on the solution of key problems of scientific and technical progress. Consultations on key questions of scientific and technical policy are organised in the committee, and forecasts for the further directions of development of science and technology are worked out.

The Committee for Co-operation in the Field of Material and Technical Supplies organises multilateral links between CMEA countries in the field of material and technical provisioning and the rational use of material and technical resources. The committee pays great attention to the utilisation of secondary raw materials, the improvement of packaging and packing materials, and the exchange of material resources.

Standing commissions also play an important role in the work of CMEA. More than 20 such commissions were working in 1980. The basic task of these commissions is to ensure the co-operation of CMEA countries on a multilateral basis in separate areas of their economic activity. Standing commissions are divided into two groups, sectoral and functional. Commissions for the chem-

ical, coal, and light industries and some others belong to *sectoral standing commissions*. *Standing functional commissions* implement co-ordinated elaboration of measures for solving individual problems on an inter-sectoral basis. There are commissions on standardisation, monetary and financial problems, and statistics.

Standing commissions handle a wide range of questions, in particular, they implement the co-ordination of plans for the development of relevant sectors, work out measures for specialisation and co-operation in production and the development of scientific and technical progress, see to the fulfilment of recommendations adopted earlier, suggest measures directed towards the better fulfilment of obligations voluntarily entered into by the countries concerned.

In addition to standing commissions the CMEA structure also has specialised *Conferences*: Conference of heads of water supply organs, Conference of heads of departments concerned with inventions and innovations, Conference of CMEA representatives on legal questions, Conference of representatives of ship-owning and chartering organisations of CMEA countries.

Conferences, as distinct from standing commissions, cannot make recommendations to CMEA member-countries. They deal chiefly with questions of mutual information and the exchange of experience in their respective fields, and work out normative papers and methods. Conferences can prepare agreed proposals and present them to higher organs of CMEA for confirmation.

Scientific research institutes were set up by the decision of the CMEA Session. The CMEA Institute for Standardisation, which works out new unified standards, was formed in 1962. The International Institute for Economic Problems of the World Socialist System was established in 1970.

The international prestige of CMEA is growing, and its international connections are developing. The Socialist Federal Republic of Yugoslavia participates in the work of CMEA organs, and Finland, Iraq and Mexico have established co-operation with it. Special commissions, consisting of representatives of CMEA member-countries and the country concerned, have been set up to provide co-operation between CMEA and these countries.

In practice CMEA combines bilateral and multilateral collaboration organically. *Inter-governmental commissions for economic, scientific and technical co-operation* act as the main organs of bilateral co-operation. In these commissions, as a rule, countries are represented at heads-of-government level.

The results of bilateral co-operation are analysed at sittings of inter-governmental commissions, and the guidelines for future co-operation between the two countries are planned. In their work inter-governmental commissions take into account the recommendations of various CMEA organs, and concentrate their efforts on the implementation of the Comprehensive Programme, the long-term specific programmes of co-operation, and the long-term programme for development of specialisation and co-operation in production.

The development of collaboration between socialist countries on a multilateral basis in the industrial sphere led to the appearance of joint economic organisations of socialist countries. According to their character they are subdivided into inter-state and international economic organisations.

Inter-state economic organisations are set up with the aim of co-ordinating the activity of participating countries in co-operation in specific areas of the economy, science, and technology, and in separate sectors and sub-sectors. As examples of inter-state organisations we may quote the International Bank for Economic Co-operation (IBEC), the International Investment Bank (IIB), the Central Dispatching Board for the Unified Power Systems, the Organisation for Co-operation in the Iron and Steel Industry (Intermetall), the Common Wagon Pool, etc.

International economic organisations are set up for concrete joint action in the field of production, scientific research, and design and development work, and also in the field of foreign trade. They are given various names: international economic associations, partnerships, centres, special undertakings. The area of operations of international economic organisations is narrower in comparison with inter-state organisations.

CMEA countries also form bilateral organisations. Thus the GDR and the USSR formed the Assofoto orga-

nisation for collaboration in the photochemical industry and Domochim for co-operation in the production of household chemical products. These organisations permit a more rational use of productive capacity and accelerate the working out and application of new ideas in production.

3. The mechanism for implementing joint planning action

The economic mechanism for implementing joint planning action of socialist countries includes the sum total of material incentives and concrete economic organisational forms. Just as social ownership of the means of production predetermines the planned character of production, so also the economic mechanism has a plan character, its functioning is systematically controlled.

The system of material incentives is meant to ensure the mutual material interest and material responsibility of the partner countries. It relies on the conscious application of the objective economic laws of socialism and facilitates the development of socialist economic integration in the interests of each country and of the whole socialist community.

The Comprehensive Programme provides for active utilisation of commodity-money relations in the field of foreign economic relations of socialist countries. The need to utilise commodity-money relations at the present stage of socialist economic integration is dictated by a number of causes. In the world socialist system there is national state ownership of the means of production. The development of socialist economic integration does not lead to the formation of new international ownership.

Socialist states are the sole owners of national products of labour appearing in international exchange. Their sale is implemented according to plan through the mechanism of commodity-money relations. The planned utilisation of the instruments of commodity-money relations, such as currencies, credits and prices, is regarded in the Comprehensive Programme as a major direction of socialist economic integration.

A planned socialist economy cannot function successfully without an appropriate system of commodity-mon-

ey relations, and these are developing in every socialist country. The development of commodity-money relations within socialist countries similarly brings about the necessity for these relations among socialist countries.

Taking into account commodity-money relations in joint planning work of socialist countries presupposes the establishment of definite proportions of exchange and prices, on the level of which the efficiency of foreign economic connections depends to a considerable extent.

In economic relations among socialist countries the international cost of the world economy is used as a criterion of socially necessary expenditures. The international cost is determined by the average world costs of social labour.

The methods of pricing applied in the CMEA market ensure the equivalence of exchange. World prices are taken as a basis for price formation in the CMEA market, which permits the dynamic and level of international costs to be taken into account. In addition to this factor, specific features of the socialist market, its planned character, are also taken into account. One of the important principles of planned co-operation is the stability of prices.

At the 9th Session of CMEA in 1958 principles of price formation were adopted which still function at the present time. Socialist countries trade among themselves on the basis of *contract prices*, which are based on the average prices in the world capitalist market over the previous five-year period. World capitalist market prices are cleansed of market fluctuations and adjusted. Thus, in order to avoid the average monthly market price fluctuations of the capitalist market average annual prices are taken.

Up to 1974 contract prices were constant over the course of a five-year period. In 1974 in connection with a sharp change in the prices of many goods on the capitalist market the Executive Committee of CMEA took the decision to adjust prices annually on the basis of the average annual prices on the world capitalist market over the previous five years. For example, in 1979 the period 1974-1978 was taken as a base, in 1980, the period 1975-1979.

Then intensification of socialist division of labour and

the growth of reciprocal foreign trade of CMEA countries led to the creation of a collective socialist currency, *the transferable rouble*, and the International Bank for Economic Co-operation (IBEC). The transferable rouble has a firm gold backing (0.987412 g of pure gold), and ensures the commensurability of prices for different goods and by the same token the conditions of equivalent exchange. The transferable rouble does not circulate in the form of banknotes, it is a currency that represents non-banknote convertible funds.

Multilateral calculations in transferable roubles facilitate the expansion of trade circulation, and accelerate the fulfilment by the partners of their reciprocal commercial obligations. For example, the USSR may pay for fruit and vegetables bought from Bulgaria with lorries sold to Mongolia.

IBEC member-countries are equal both in the use and the formation of the transferable rouble, insofar as the only sources of availability of this currency are the export of goods or services, or bank credits. The use of transferable roubles gives no advantage to any country.

The International Investment Bank (IIB) was founded in 1970 to enable CMEA member-countries to concentrate their investments on the carrying out of projects of mutual interest. The basic purpose of the bank is to provide credits for the implementation of measures for the further extension of international socialist division of labour, and the development of specialisation and co-operation in production.

IBEC and IIB are open organisations and any country sharing their Rules may become a member. Since 1974 credits in transferable roubles have been granted to Yugoslavia and to developing countries.

An instrument for the implementation of programmes and plans for co-operation of socialist countries is their over-all contractual control. The results of joint planning actions are consolidated in the form of inter-state agreements or treaties. In international treaties the voluntarily accepted obligations are given legal force. Measures provided for in them are reflected in the economic plans of the respective countries and in planned targets of ministries and enterprises.

4. The results of co-ordinated planned development

At the base of the successes of the co-ordinated development of the planned economies of CMEA member-countries lies their socio-economic and political community, their common ideology, their common interests and goals. CMEA member-countries are building their mutual relations on the principles of socialist internationalism. The more than thirty years of CMEA activity have been marked by the economic consolidation of the fraternal states. Within the framework of CMEA a socialist type of international division of labour is being formed and strengthened, characterised by equal rights and mutual assistance. For the first time in the history of man socialist states have accomplished true democratisation of international economic relations, countries with greater economic power have voluntarily opened their domestic markets to the products of other countries' manufacturing industry.

The achievements of CMEA countries give a practical demonstration of the superiority of the socialist system. CMEA countries have gained a firm superiority over capitalist countries in rates of economic growth. Over a period of thirty years the combined national income of socialist countries rose 9.5-fold, whilst industrial output increased 15-fold, which is respectively 140 per cent and 200 per cent more than in developed capitalist countries.

At the present time CMEA countries, having 10 per cent of the world's population and occupying 19 per cent of its territory, produce one third of world industrial output (in 1951 it was 18 per cent) and are responsible for more than half the growth of world industrial output. In 1951 CMEA countries accounted for 15 per cent of world national income, and now it is 25 per cent. CMEA countries occupy leading positions in the world output of many kinds of industrial output.

In 1950 the output of industrial products in CMEA countries was roughly 35 per cent less than that of the Common Market countries, whereas at the present time it is 100 per cent more than in these countries. The process of gradual equalisation of economic development of CMEA countries is taking place, in which the basic role

The share of CMEA countries in production of major kinds of industrial output (in percentages)

	Electric power	Coal	Oil	Steel	Cement	Mineral fertilizers
1950	15	34	8	19	16	21
1980	26	56	24	36	34	42

belongs to internal factors, to the mobilisation of domestic resources of the state. Favourable external factors also play an important role, in the first place fraternal assistance from the more industrially advanced socialist states.

Joint planning activity facilitates the application of the achievements of scientific and technological progress in production, and the raising of the efficiency of social production. In CMEA countries 80 per cent of the growth of industrial output is provided by the growth of productivity of social labour.

More than 3,000 research, design and development organisations and higher educational establishments in CMEA countries share in scientific and technical collaboration; 20 per cent of world inventions are made in CMEA countries.

A graphic example of co-operation by scientists of socialist countries is the successful carrying out of the Intercosmos programme, which includes joint flights by international crews of cosmonauts. Cosmonauts from Czechoslovakia, Poland, GDR, Bulgaria, Hungary, Vietnam, Cuba, Mongolia and Romania have worked together with Soviet cosmonauts in space.

Socialist countries jointly work out and introduce unified CMEA standards which facilitate the raising of the technical level of production, the development of specialisation and co-operation in production, and the raising of the quality of output.

Joint planning by CMEA countries and the co-ordination of national economic plans have enabled the socialist countries to satisfy their requirements for fuel, raw materials, machinery and equipment mainly with their own output.

The foreign trade of CMEA countries is developing successfully, their foreign trade turnover in 1979 amounting to almost 200,000 million roubles, of which their mutual trade turnover amounted to 111,000 million roubles.

Soviet supplies have great importance in satisfying the needs of socialist countries for energy resources. Over the five-year period 1976-1980 the Soviet Union delivered to CMEA countries 370 million tonnes of oil, 46 million tonnes of oil products, 88,000 million cu m of gas and 64,000 million kwh of electric power. Deliveries of fuel and energy resources are to be increased over the current five-year period.

The ultimate aim of co-operation among socialist countries is to raise the material and cultural standard of living of the workers, and in CMEA countries labour conditions are constantly improving and the well-being of the nation is growing. The concept of a high standard of living takes in not only an increased consumption of goods and services, it is also the possibility of a more complete satisfaction of man's spiritual and cultural needs, and the ensurance of working people's equal rights to work, to education, to rest and leisure and to participation in management.

CMEA countries implement wide programmes for improving the national well-being in the following basic directions: raising the incomes of the population, improving social security, the building of housing accommodation, the development and improvement of public education and health care, creating the essential conditions for the all-round cultural development of the workers and for their rest and leisure, and the protection of the environment.

The basic source of growth in material well-being of the workers in socialist countries is the rise in wages of factory and office workers and in the incomes of collective farmers, and also an increase in social consumption funds.

Social consumption funds play an important part in raising the national well-being. The socialist state uses these funds to provide the opportunity for people to receive free education and medical aid, financial support in old age, annual paid holidays, subsidised accommodation

at sanatoria, and subsidised housing with all modern conveniences.

In CMEA countries full employment is guaranteed for the whole able-bodied population. In 1979 the numbers employed in the national economies of CMEA countries amounted to 158 million. Social programmes being implemented in CMEA countries provide for improved qualifications of workers employed in the national economy, which has great importance in the conditions of the scientific and technical revolution.

The achievements of socialist countries have enormous international significance and exert considerable influence on the restructuring of the system of world relations. In 1979 CMEA countries gave economic and technical aid to 86 developing countries and granted them long-term credits amounting to more than 15,000 million roubles.

More than 3,500 industrial enterprises and other projects, of which 2,700 are already functioning, have been or are being built in developing countries with the economic and technical assistance of CMEA countries under agreements concluded. In higher and specialised secondary schools of CMEA countries more than 41,000 students from more than 100 countries of Asia, Africa and Latin America are receiving instruction and training.

The successes achieved by CMEA countries in economic and social development are the result of their planned co-operation. Planned development is the greatest advantage of socialism, the foundation of the dynamic and proportional development of social production.

A SHORT GLOSSARY OF ECONOMIC TERMS

Aggregate social product—the totality of material benefits (means of production and articles of consumption) created in all sectors of material production over a specific period (usually one year). The aggregate social product is divided into two parts according to value: the fund for the replacement of used-up means of production, and the newly created value, or national income of society.

Balance method of planning—the basic method of socialist planning, applied in the planned establishment and observance of physical and value proportions, and also proportions in distribution of labour.

Balance of the national economy—a system of aggregated economic indicators describing the level of development of the economy, the scales and rates of expanded reproduction and the basic economic proportions. These indicators are brought together in a series of balance tables. The balance of the national economy is a key instrument for planning the rates and proportions of social reproduction, widely used at all stages of preparation of the national economic plan.

Capital investment—the sum total of expenditure on the setting up of new fixed assets, or the reconstruction and expansion of existing ones, intended for productive and non-productive purposes.

Co-ordination of national economic plans—the basic form of joint planning activity of countries of the so-

cialist community. The chief object of co-ordination of national plans is the common scheme for the division of labour among the interested countries and the amounts of reciprocal deliveries of goods flowing from this.

The Council for Mutual Economic Assistance (CMEA)—an international economic organisation of socialist states. CMEA is based on a new type of economic relations, on principles of fraternal co-operation and socialist internationalism, full equality and comradely mutual assistance. Today CMEA unites ten sovereign states situated in Europe, Asia and Latin America, with a total population of nearly 443 million people in 1980.

Counter-plans—plans worked out in enterprises by their work collectives providing for the achievement of higher indicators in comparison with the targets set for the given year of the five-year plan.

Democratic centralism in planning and management—the combination of centralised planned management of the economy with operational economic independence of enterprises, and with the creative initiative of the masses. Democratic centralism in economic planning means the centralised formulation in the national plan of only the basic, decisive targets which determine the directions, rates and proportions in the development of the national economy. Centralised planned management concentrates on formulating and ensuring the fulfilment of the most important targets of the social and economic development of the country. At the same time, democratic centralism implies not just a nominal but an effective participation of the workers in the management of production and in the process of planning.

Economic law—the objectively necessary and steadily recurring link between economic phenomena and processes determining their functioning and possibilities of development. The operation of economic laws does not depend on the will and consciousness of people, they cannot be established or abolished by people. People study these laws and utilise the mechanism of their operation in their own interests.

Efficiency of social production—the economic result of the development of the national economy. In its most general form it is characterised by the correlation of the effect obtained and the production costs. An increase in the efficiency of social production consists in satisfying social requirements with the least possible expenditure of labour, material and financial resources.

Expanded (extended) reproduction—the renewal of production in ever greater volumes in every cycle. The process of expanded reproduction constitutes the reproduction of material benefits: means of production (machines, equipment, buildings, fuel, raw material) and consumer goods (food, clothing, housing), production relations (the socio-economic and political structure of the given society) and the reproduction of the workforce.

Fixed productive assets—the sum total of the means of socialist production, serving for longer than one production cycle. They gradually transfer their value to the product being made. These funds include, for example, production buildings, machinery and equipment.

Forecast—a scientific preview of possible changes in the economy, in separate fields of science and technology, the use of resources and the development of socio-economic relations.

Gross national product (GNP)—the economic indicator used in bourgeois statistics and in international organisations which represents the aggregate value of final commodities and services expressed in market prices.

Group A—industrial products used for productive consumption (equipment, machines, raw and other materials, fuel and other means of production).

Group B—the products of industry used for non-productive consumption (foodstuffs, clothing, footwear, goods for cultural and domestic purposes and other articles of consumption). The proportions of development of Group A and Group B are among the most important national economic proportions.

Output-fixed assets ratio—the aggregated indicator characterising the level of utilisation of fixed productive assets. The output-fixed assets ratio shows how much output comes from one rouble of fixed productive assets. For the economy of the country as a whole the indicator of output-fixed assets ratio is determined by the ratio of the volume of national income produced to the value of the fixed productive assets of sectors of material production (industry, agriculture, building).

Intensive path of development of production—the ensuring of the growth of production through increased productivity of labour, the improvement and better use of productive assets, and an increase in the yield of agricultural crops and the productivity of animal husbandry.

Inter-sectoral balance of production and distribution of the social product (ISB)—a chess-board showing inter-sectoral connections. ISB is widely used in the analysis and planning of the proportions of extended reproduction.

Khozraschet—a method of socialist planned management of the national economy. The essence of *khozraschet* is that each *khozraschet* enterprise should, as a result of its operations recoup its production costs and make a profit. This method is based on the comparison, in monetary terms, of the costs and results of economic activity, and on the financial responsibility and material interest of the enterprise and the workers.

Labour productivity—one of the most important indicators characterising the efficiency of production. The level of labour productivity shows the amount of produce turned out on average by one worker over a given period. The level of labour productivity over the whole national economy is determined by the ratio of the volume of national income produced to the number of workers employed in material production.

Material balances—the total of natural (i.e., expressed in tonnes, metres, cubic metres, etc.) and value balances. In balance tables the planning organs reflect pro-

duction and consumption according to specific kinds of output, first and foremost in kind. Material balances are widely used in planning to ensure a proper balance between the development of separate sectors and sub-sectors of the economy.

Methodology of national economic planning determines the basic principles and methods of planning, and the sequence of stages in the working out of a social and economic development plan. Methodology of planning differs from the procedure of planning, which is the total of working methods used for the carrying out of concrete plan calculations.

National economic planning—the economic activity of the socialist state and its economic organs in guiding the economic, social and cultural life of society with the help of long-term and current plans. It is based on the conscious application of economic laws. Planning of the national economy is the basic method of putting into practice the economic policy of the communist and workers' parties of socialist countries. The supreme aim of this policy is to raise the material and cultural level of the people through the utmost development of the country's productive forces.

National income—the newly created value in the sphere of material production. If we deduct from the value of the aggregate social product all material expenditures made in the production process (amortisation deductions for the cost of machinery, equipment, transport facilities and buildings; the cost of raw and other materials consumed), then there remains the newly created value over the year, or national income of society. The national income is an aggregated indicator of the economic development of a country. The level of development of the productive forces of society is synthesised in it, and in the most general form it reflects the results of the reproduction process over a specific period of time.

Nomenclature—the enlarged list of articles produced.

Normative pure output represents part of the wholesale price of an article, which consists of wages, deductions

for social insurance, and profits. Normative pure output is established for the whole range of finished and semi-finished products, for all works and services of an industrial character which are sold to other customers.

Optimum planning—a system of methods for drafting the best (from the point of view of the chosen criterion) plan for the development of the national economy as a whole, and its separate sectors, regions and enterprises. The optimum plan ensures the achievement of the set targets with the least expenditure of resources and labour.

Output quota—the quantity of produce which the individual worker or the team must produce, or the number of operations they must carry out in a unit of time (hour, shift, month).

Plan balancing—the achievement of proportionality, co-ordination of separate sections of the economic plan.

Planning theory—the science of planning. The subject of planning theory is the methodology of applying economic laws in planning, the generalisation of the rich experience of planning in socialist countries, and the working out of new theoretical and practical recommendations for raising the efficiency of planning. The basic method of planning theory is Marxist dialectics.

Production co-operation—systematically organised connections between enterprises, jointly manufacturing a specific product. It includes the supply of semi-finished products, parts, assemblies and completion items needed for the manufacture of the end product.

Productive capacity—the maximum possible annual (daily, one shift) volume of output of products (or extraction, or treatment of raw materials). The productive capacity of an enterprise is determined by the capacity of the major workshops or key units and installations to deliver the basic products. It is calculated on the volume of output of a specific range of products.

Profit—the net monetary income received by an enterprise; the basic source of revenues of the socialist state. It is calculated as the difference between the receipts from the sale of produce and the full cost of producing it. Part of the profits of an enterprise is contributed to the state budget; the remainder stays with the enterprise and is used to set up economic incentive funds.

Quality of output—the sum total of consumer qualities of the produce, the degree of its fitness to satisfy specific needs of the economy or the population.

Social consumption funds—a part of the consumption fund in the national income utilised for the satisfaction of the requirements of the population over and above the wages fund, or obtainable on favourable terms. Through the social consumption funds the populations of socialist countries receive free medical aid and enjoy free education. These funds are used to pay pensions, allowances, student grants, and for annual leave.

Socialist competition—a method of increasing the productivity of labour and the efficiency of social production, and improving the quality of work on the basis of raising the creative activity of the workers. It combines organically competition and friendly co-operation, mutual assistance of people who work under conditions of socialist ownership. In socialist competition there appears a new attitude towards work and a drive to reach the highest possible standards in all spheres of activity.

Specialisation of industrial production—one of the forms of social division of labour and its rational organisation. Specialised production is expressed in the objective process of increasing the number of special, independent sectors of industry.

State budget—the basic state financial plan in which the source of formation and areas of utilisation of state monetary revenues are defined. In socialist countries approximately half the national income is centralised in the state budget and systematically distributed through it.

System of indicators of a plan—the sum total of economic indicators reflecting the quantitative and qualitative characteristics of the plan. It reflects the tasks of the plan and the economic activity of all echelons of the national economy: enterprises, sectors, economic regions. The system of indicators of a plan is designed to ensure the proportional, efficient development of the economy.

Systematic planning—the economic form of organisation of the national economy under socialist conditions. Systematic planning involves the conscious maintenance of proportionality on the scale of the whole economy, and flows from the fact that political power in socialist countries lies in the hands of the working people and that the socialist ownership of the means of production forms the economic foundation there. Socialist ownership of the means of production creates the necessity and the possibility of developing the national economy according to a single plan, and of consciously establishing proportions.

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